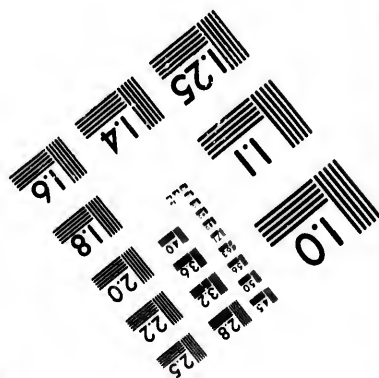
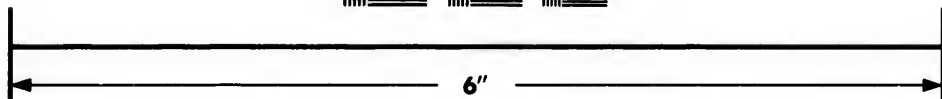
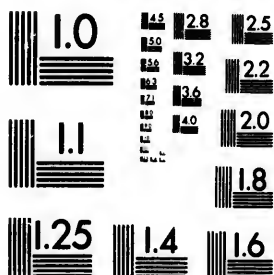


**IMAGE EVALUATION
TEST TARGET (MT-3)**



**Photographic
Sciences
Corporation**

23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503

10
11.6
11.8
12.0
12.2
12.5
12.8
13.2
13.6
14
14.4
14.8
15.2
15.6
16
16.4
16.8
17.2
17.6
18
18.4
18.8
19.2
19.6
20
20.4
20.8
21.2
21.6
22
22.4
22.8
23.2
23.6
24
24.4
24.8
25.2
25.6
26
26.4
26.8
27.2
27.6
28
28.4
28.8
29.2
29.6
30
30.4
30.8
31.2
31.6
32
32.4
32.8
33.2
33.6
34
34.4
34.8
35.2
35.6
36
36.4
36.8
37.2
37.6
38
38.4
38.8
39.2
39.6
40
40.4
40.8
41.2
41.6
42
42.4
42.8
43.2
43.6
44
44.4
44.8
45.2
45.6
46
46.4
46.8
47.2
47.6
48
48.4
48.8
49.2
49.6
50

**CIHM/ICMH
Microfiche
Series.**

**CIHM/ICMH
Collection de
microfiches.**



Canadian Institute for Historical Microreproductions / Institut canadien de microreproductions historiques

10
11
11.6
11.8
12.0
12.2
12.5
12.8
13.2
13.6
14
14.4
14.8
15.2
15.6
16
16.4
16.8
17.2
17.6
18
18.4
18.8
19.2
19.6
20
20.4
20.8
21.2
21.6
22
22.4
22.8
23.2
23.6
24
24.4
24.8
25.2
25.6
26
26.4
26.8
27.2
27.6
28
28.4
28.8
29.2
29.6
30
30.4
30.8
31.2
31.6
32
32.4
32.8
33.2
33.6
34
34.4
34.8
35.2
35.6
36
36.4
36.8
37.2
37.6
38
38.4
38.8
39.2
39.6
40
40.4
40.8
41.2
41.6
42
42.4
42.8
43.2
43.6
44
44.4
44.8
45.2
45.6
46
46.4
46.8
47.2
47.6
48
48.4
48.8
49.2
49.6
50

© 1986

Technical and Bibliographic Notes/Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- Coloured covers/
Couverture de couleur
- Covers damaged/
Couverture endommagée
- Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée
- Cover title missing/
Le titre de couverture manque
- Coloured maps/
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur
- Bound with other material/
Relié avec d'autres documents
- Tight binding may cause shadows or distortion along interior margin/
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure
- Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.
- Additional comments:/
Commentaires supplémentaires:

- Coloured pages/
Pages de couleur
- Pages damaged/
Pages endommagées
- Pages restored and/or laminated/
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached/
Pages détachées
- Showthrough/
Transparence
- Quality of print varies/
Qualité inégale de l'impression
- Includes supplementary material/
Comprend du matériel supplémentaire
- Only edition available/
Seule édition disponible
- Pages wholly or partially obscured by errata slips, tissues, etc., have been refilmed to ensure the best possible image/
Les pages totalement ou partiellement obscurcies par un feuillet d'errata, une pelure, etc., ont été filmées à nouveau de façon à obtenir la meilleure image possible.

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	14X	18X	22X	26X	30X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12X	16X	20X	24X	28X	32X

The copy filmed here has been reproduced thanks to the generosity of:

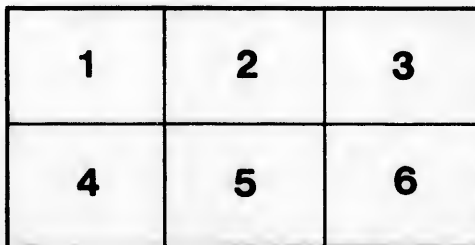
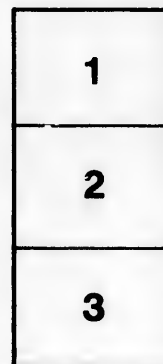
D. B. Weldon Library
University of Western Ontario

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol → (meaning "CONTINUED"), or the symbol ∇ (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:



L'exemplaire filmé fut reproduit grâce à la générosité de:

D. B. Weldon Library
University of Western Ontario

Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant soit par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole → signifie "A SUIVRE", le symbole ∇ signifie "FIN".

Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les diagrammes suivants illustrent la méthode.

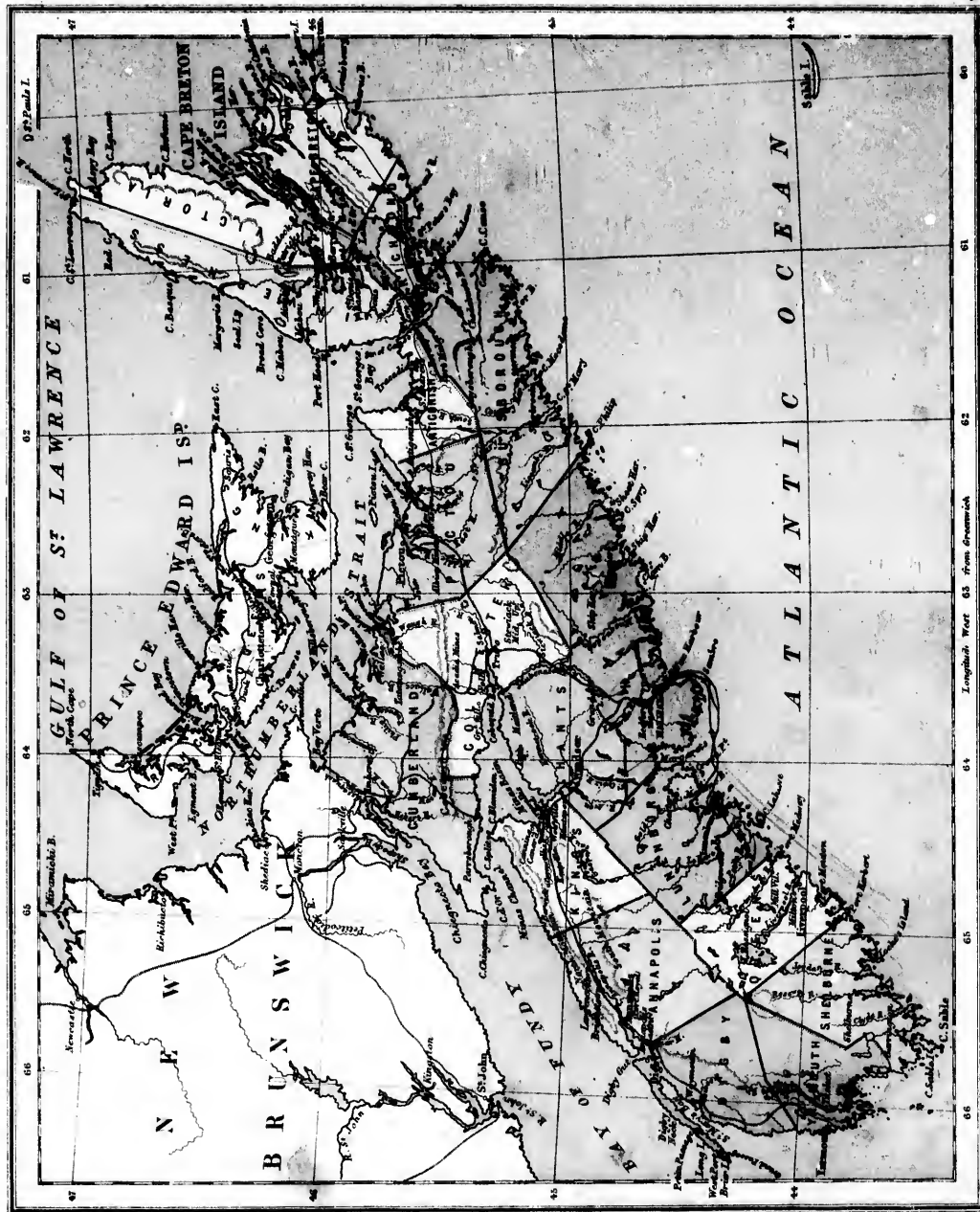
errata
to

pelure,
on à



32X

NOVA SCOTIA



0 10 20 30 40 50
 English Miles
 Scale of 44 Miles to an Inch.

SCHOOL GEOGRAPHY

OF

THE WORLD.

BY

J. B. CALKIN, M.A.,

PRINCIPAL OF THE PROVINCIAL NORMAL SCHOOL, TRURO, N.S.

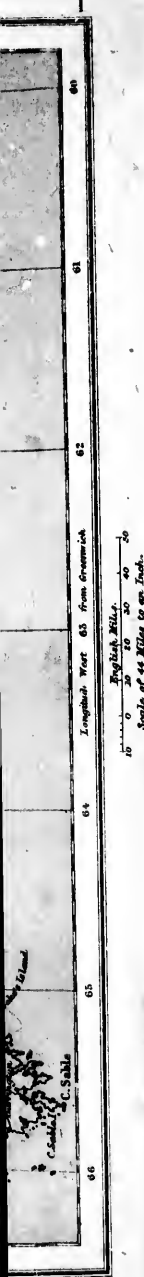
New Edition.

London:

T. NELSON AND SONS, PATERNOSTER ROW.
EDINBURGH; AND NEW YORK.

A. AND W. MACKINLAY, HALIFAX, N.S.

1893.



Entered at Stationers' Hall.

600069

IN
fro
age
as
nee
adr
the
poi
ma
To
wo
pub
the
om
sub
?
The
mer
seri
the
con
live
and
tha
obse
and
ledg
T
que
and
The

P R E F A C E.

IN new editions of this work, which have been issued from time to time since its first publication eleven years ago, various changes and corrections have been made as the progress of events and of knowledge rendered necessary. As originally prepared, the book was adapted more especially to the Maritime Provinces; the aim has now been to assume a Dominion standpoint, and, without any sacrifice of local fitness, to make the book equally suitable to all the Provinces. To secure this end, as well as for other reasons, the work has been wholly re-written. The more recent publication of the **Introductory Geography** rendered the introductory chapter unnecessary: excepting the omission of this chapter, the plan of the book remains substantially unchanged.

The Hints on Oral Lessons are self-explanatory. They are designed, not to be studied by the pupil, but merely as "hints" to aid the Teacher in conducting a series of oral lessons previous to the use of any, even the most elementary, text-book. Such lessons, properly conducted, on the neighborhood in which the children live, awaken and develop their powers of observation and reflection, help them to an easy transition from that knowledge which is attainable through their own observation to that which lies beyond their experience, and show them the true relation of books to knowledge.

Throughout the book are given numerous **review questions**, which may awaken interest and thought, and lead to more extended effort in the same direction. The Author, however, believes that the furnishing of

questions on the various lessons, as aids to learner and teacher, is a pernicious feature which ought to be rigorously eschewed by makers of text-books for our schools. However plausible the supposed advantages may appear, the general influence of such questions is injurious, resulting in mere rote learning and perfunctory teaching. As a means of securing all the benefits claimed for such questions, without the attendant evils, the Author would call attention to the **topical arrangement** of matter under distinct headings in the descriptive parts of this book.

The **eighteen topics**, under which the different countries are discussed, will aid the Teacher in conducting the recitation. They will also be useful in many ways to the learner,—assisting him in preparing his lesson, furnishing central points around which will cluster more extended knowledge derived from books and travel, assisting the memory by a uniform and systematic arrangement of knowledge, and establishing habits of order. In the arrangement of topics, as far as seemed practicable, the aim has been to make each arise naturally out of the preceding. With certain causal facts premised, the learner is thus able largely to anticipate those that are dependent; the reasoning powers are called into action, and the study of Geography becomes a higher exercise than a mere memorizing of isolated facts.

Formal definitions are given in the Glossary at the end of the book, and sometimes also in review exercises. This is more in harmony with advanced methods of education than the time-honored practice of causing the

learner to memorize pages of definitions on entering upon a new study. The most appropriate time to learn the meaning of a new term would seem to be the first occasion when its use becomes necessary.

The **typographical and illustrative arts** have been laid under tribute to embellish the work and give it increased effectiveness. Variety of type has been employed to catch the attention and break the monotony so wearisome to children; and the preparation of lessons has not been made unnecessarily imposing and repulsive by a crowded page. The many excellent Illustrations will have an important bearing in exciting interest, in giving correct and permanent conceptions, and in the cultivation of taste.

The Author gladly avails himself of this space to express his obligations.

His Publishers have his best thanks for the cheerful and unsparing efforts with which they have executed, in the highest style of art, their part of the work.

Many important suggestions have been received from Theodore H. Rand, Esq., D.C.L., Superintendent of Education for the Province of New Brunswick. Valuable assistance in the revision of Proof was given by Professor H. Creed, M.A., of the Normal School, Fredericton, N.B.; and by Professor F. Eaton, M.A., of the Normal School, Truro, N.S. Acknowledgments are also due to Principal MacCabe, M.A., of the Normal School at Ottawa.

JOHN BURGESS CALKIN.

NORMAL SCHOOL, TRURO, N.S.,
January 1881.

HINTS FOR ORAL LESSONS ON GEOGRAPHY.

THE young student ought not to feel that in the school-room he is isolated from the world outside. The teacher should not carry him, as it were, handfold, and set him down in the very midst of the unknown, where all on this side and on that is unfamiliar and strange, and where he can have no recourse to knowledge already acquired, as a key of interpretation to the new and unsolved. On the contrary, whatever may be the new subject to which we are about to introduce him, we should first ascertain what is his present standing-ground, or knowledge, relative to the prospective study; and then conduct him by a path which ascends no abrupt heights, and crosses no wide chasms, but which is so continuous and plain that each succeeding step shows the one which should follow.

These common-sense principles are often violated in commencing the study of geography. Our text-books generally take the child first to the heavens—to things entirely unknown—and end with home and things familiar. It is this that often makes the study so uninteresting and profitless. The child is thrown beyond the range of his mental powers; we try to make him grasp the unknown through his powers of reason and abstraction when he requires to feel his way, leaning on his perceptive powers. We wish to see this gulf bridged over by a system of *oral lessons*, varying with the natural features of the school section and the mental capabilities of the pupil. Were it otherwise practicable, space forbids the writing out or giving a very minute detail of such a system; but it will also be perfectly manifest that the plan which would suit one school might be wholly unadapted to another, and that the ever-varying circumstances of any school require frequent extemporaneous changes in the mode of illustration. We shall not attempt, therefore, what seems impracticable, and would be nearly useless if accomplished—to give supposed questions, answers, ellipses, and illustrations; believing that such lessons would, to say the least, want the vital element, *adaptation*. We shall aim to give merely a general outline, as a sort of guide to those

teachers who have but little experience, not claiming for it perfection in its arrangement or completeness in its parts.

The teacher should keep two objects steadily in view—the development of mental power in his pupils, and preparation for the regular study of geography from the text-book. The first of these is the more important; and to secure it, more depends on the *mode* of communicating than upon the *fact* taught. The following Pestalozzian principles will be found to have an important bearing on successful results:—

Train the child to observe for himself, to discover for himself, and to do for himself. Develop the idea, then give the appropriate term; proceed from the known to the unknown—from the particular to the general.

The several divisions are not supposed to constitute single lessons; on the contrary, most of them will be found to contain material sufficient for a number of lessons.

OUTLINE OF A COURSE OF ORAL LESSONS,

INTRODUCTORY TO THE FORMAL STUDY OF GEOGRAPHY.

1. **Points of the Compass.**—Explain the cardinal points by reference to the sun at different times of day—at sunrise in the east, at sunset in the west, at noon in the south; the point opposite the south is north. Next take the intermediate points. Let the children give the direction of various objects, as their own homes.

2. **Train to Observe and Describe.**—Place various objects—as a book, ink-fountain, and a cup—on the desk. Ask the children to note and describe their relative position. Disarrange the objects, and call upon a pupil to place them as before. The others criticise. Repeat the exercise, increasing the number of objects.

3. **Mapping.**—Review the preceding exercises. Having arranged a number of objects, draw a representation of them upon the black-board, the pupils naming their position for each. Repeat the exercise, increasing the number of objects and varying the arrangement. Give the term *map* as the name of these pictures. Make a new arrangement of a few objects, and after the children have described fully the position of each object, ask them to draw a map upon their slates.

4. **Train to Judge Distances.**—Show the children, by means of a string or a stick, an inch, a foot, a yard, and a rod. Exercise them repeatedly in drawing upon the board or floor lines of these various lengths, causing them to test their skill by applying the measure. Vary the exercise by calling upon the children to judge of the

... 127
... 127
... 128
... 129
... 130
... 132
... 132
... 133
... 133
... 137
... 137
... 137
... 139
... 139
... 140
... 141

... 148
... 147
... 147
... 148
... 148
... 148
... 148
... 149
... 150
... 150
... 151
... 152
... 152
... 153
... 153
... 153
... 154
... 155

... 156
... 158
... 158
... 161
... 161
... 162
... 163

... 165
... 167

length of lines, their own height, the height of doors and windows, the distance between objects not very remote from each other—always applying the measure, to test the accuracy of their judgment.

5. **Relative Position and Distance—Boundaries.**—Cause the children to observe the various objects in the school-room; their size, relative position, and distance from each other. Show them that the room is limited and its form determined by the walls. Give the term *boundary*;—the room is bounded by the walls. Call for a description of the room, the objects in it, their position and uses. Direct the children to make a map of the room on their slates.

6. **Maps on a Scale.**—Draw upon the black-board two maps of the school-room, one considerably larger than the other. Show that both are equally correct; that neither is as large as the room; and that it would not be possible to make a map upon the board equal in size to the room. Show the grand point of maintaining a due proportion in the map, corresponding to the relative sizes of the objects. This may be made plain by drawing the picture of a man with the arms extending to the feet. The children, noting the disproportion, will say that the arms are too long. Bring out the idea of relative length by showing that the arms in the picture are not so long as their own—that they are too long only because they do not correspond with the other parts. Show them that in making maps it is usual to let some definite short length represent a longer one, and that this is called the *scale* of the map; tell them that the upper part of the map generally represents the north. Let them now make a map of the school-room on some given scale.

7. **The Play-Ground.**—Direct the children to examine the playground and the objects in it; to judge of size and distances, testing by measurement; to describe the ground, showing first its position with respect to some prominent object—as the brook, river, woods, village, and church; to give the boundaries, north, east, south, and west; to state the size of the ground, its surface, the objects in it, their position, uses, etc. Call upon some one to make a map on the board, according to a given scale. The others criticise. Correct errors, efface the map, and let all draw it upon their slates.

8. **School Section—Land Surface.**—Question the children as to what they have observed respecting the inequalities of the surface of the neighborhood. Some places are level, like the floor or playground; in others the earth rises up in hills. Tell them of level tracts so large that they could not see across them, and give them the term *plain*. Ask if they have seen a very high hill which it would take some time to climb,—what they call such a hill. If there is no mountain near, and they have not seen one, question them respecting the highest hill in the neighborhood. Some object is six or ten feet high; how many such heights would equal that of the hill. Ten such hills, one upon another, would make a very high hill, which would be called a *mountain*. This would be a low mountain; for far away are mountains twenty or thirty times as high, rising above the clouds. They rise into the cold air so far that their tops are covered with perpetual snow. Tell them that the snow collects in vast masses; and they will see that, as it cannot melt, it must slip down the sides of the mountain, forming an *avalanche*.

9. **Water-shed.**—By reference to some detached hill and lengthened range, show the difference between an isolated mountain and a continuous range or chain. Draw from the children, that when they have reached the top or summit of a range the ground falls off, or slopes in the opposite direction; that it is somewhat like the roof of a house, sloping in two ways; that when it rains, the high ridge along the top will separate the water as it falls, throwing some in one direction and some in the opposite;—that this ridge is called a *water-shed*.

10. **Advantages of Mountains.**—If the ground were all quite level, the rain could not run off, and the earth would soon be satur-

ated so that the water could no longer sink in. If the children have seen a swamp, it will furnish a fine illustration. Show what would be the result with respect to the vegetable kingdom—many of the most useful plants could not live; hence food would be wanting to many animals. So much water in the soil would cause disease among men. The children have seen a spring. Show how it is formed, and could not exist if the whole surface were a plain. Other benefits may also be noticed, as shelter against winds, and the comparative ease with which minerals can be obtained from the side of a mountain. Condensation of clouds, and other climatic benefits, will perhaps be too much advanced at this stage.

11. **Streams.**—Take the stream with which the children are most familiar—the brook where they have been accustomed to fish, or to sail their toy ships. Is the water still? Why does it flow? Illustrate by pouring a little water upon the level floor, and then upon the inclined desk. Show that the rapidity of the stream is in proportion to the inclination. Flowing water is called a *stream*—the brook is a *stream*; very large streams are *rivers*. Does the water flow along the surface? No, but in a groove—the *channel*; the bottom of the channel is the *bed*; along the sides are the *banks*—the *right hand* and the *left hand bank*. What made the channel? Illustrate by what they have seen along the road after a heavy rain; show how the depth of the channel depends on the velocity of the stream and the softness of the ground; how the stones in the bottom of the brook have been worn smooth. As the children go up the stream, they observe smaller streams flowing into the main stream, giving or contributing their waters; these are *tributaries*. Following up, they finally reach the *brooklet* hastening away from the *spring* which bubbles up on the side of the hill or mountain; this is the *source* of the stream. Now, descending the stream, they find it becoming larger as the tributaries flow in, until at length, by the union of many brooks, they have the *river*; and the farther the river flows, the more tributaries it will receive, and the larger it will become. Where does the river go? If the children have seen the sea, this will be readily explained; if not, it will be necessary to give a lesson on the vast body of salt water which covers three-fourths of the Earth, into which the rivers flow. Thus, coming back to their homes, the little brook where they love to sport is hastening away to the ocean; the water which they see in it to-day is not the same which they saw yesterday, and to-morrow it will be gone, and other water will have taken its place. Tell the children of some of the great rivers of the Earth, and, by comparison, give them an idea of their size.

12. **Benefits of Streams.**—Lead the children to see the dependence of springs, brooks, and rivers upon inequalities of the surface; also how they can find the highest ground by tracing the brook to its source. Direct them to discover the advantages arising from springs, brooks, and rivers, taking those benefits first which are most obvious. They get water from the spring; the cattle get drink at the brook, perhaps not far distant; the stream turns a mill. Call their attention to the general fertility of the soil along the banks of streams; remind them of the dependence of vegetation upon moisture, and show the absorbing power of the soil. They have seen the stream overflowing its banks in the spring, and have observed the deposit of mud. They have seen the farmer spreading his top-dressing, etc. Interval and marsh might also form subjects for lessons. Show the facilities for intercommunication afforded by large and navigable streams.

13. **Lakes.**—From some pond in the neighborhood develop the idea of a lake. Tell of some of the great lakes.

14. **Climate.**—Lead the children to see that the sun is the source of heat, and that perpendicular rays give more heat than oblique. Allow them to hold the hand to the fire, so that the rays fall perpendicularly—then inclined; in the former case they will feel the

heat much more than in the latter. This will afford an illustration of the cause of the varied power of the sun at different times of day, and at different seasons of the year. (Do not attempt at this stage to explain more minutely the cause of the seasons.) Show that the mountain is colder than the plain. This they can infer from the fact that there is often snow there when there is none upon the low ground. They can also infer that slope influences temperature, by comparing the south side of a hill with the north. Show the cooling effect of evaporation of water from the earth. Various illustrations may be used for this purpose. A bottle of water, wrapped in a cloth kept saturated with ether, may be frozen in a hot day. Cologne water poured on the skin produces cold. It requires heat to change a liquid to the form of vapor, and heat is taken from the bottle or body for this purpose; the liquid, having combined with heat, becomes vapor, and escapes into the atmosphere. So also sprinkling water upon the floor on a hot day cools the room. Hence it can be shown that if the ground is kept wet all the time, it must be cold, as all the heat will pass off with the vapor; and hence the value of cultivation and drainage. The children may also be told that it is very unhealthy to live near wet, boggy places, especially in hot weather. They can now form some idea of what is meant by the climate of a country, and understand some of the causes on which it depends.

15. **A Physical Map.**—Having first called upon the children to observe carefully the natural features of the school section, as the hills, the plains, the valleys, the brooks, and the ponds, ask for a description, including an estimate of distances. Draw from them that these are the features impressed upon the place by the Creator, and not made by man—that they are called *natural* or *physical* objects. Direct them to make a physical map of the section on a given scale.

16. **Minerals, Plants, and Animals.**—Give lessons upon the minerals and rocks, the trees and wild plants, birds and wild animals found in the section. Avoid, at this stage, scientific and technical terms—encourage the children to bring specimens—teach them to observe qualities and characteristic features—lead them to see adaptations and uses. Teach them to observe the difference between the stones found in one part of the school section and those of another part, or of an adjoining school section; also the difference in the forest trees and wild flowers, in connection with varieties of soil. Refer to exotics not being able to endure our winter, but reared as house plants.

17. **Inhabitants.**—The children have seen white men, black men, and copper-colored or Indians; perhaps all are found in the school section. Draw from the children the characteristic features of each. Tell them that the white men came from a distant country called Europe, the blacks also from a distant land called Africa, and that the Indians were the original inhabitants, found here when our forefathers came from Europe. Describe the condition and mode of life of the Indians when the country was discovered—show the difference between civilized and savage. Show that it is no reproach to have a black or copper-colored skin—that he who fails to do his duty is the one to feel shame—that he who acts uprightly, be he black or white, should be esteemed. "Act well your part; there all the honor lies."

18. **Pursuits.**—Give lessons on the various occupations of men, as arising out of their necessities and circumstances; the advantages of each devoting himself to a certain calling, as compared with attempting to do the work of all the trades; the dependence of the pursuits in any particular locality upon the natural conditions of that locality—farming, upon the qualities of the soil—fishing, upon contiguity of the sea—mining, upon mineral products—lumbering, upon the forest—ship-building, upon the forest and the sea—manufactures, upon the abundance of raw material and ease in finding

market; the importance of trade, or exchanging products with other people; means of transporting goods, as by shipping, railroads, trucks, etc., giving an idea of the relative advantage of each, and the importance of having good roads. Show the advantage of having a class of persons who devote themselves specially to trade—merchants; the circumstances which influence the merchant in choosing his location—a place of resort, and easy communication with other places; why the town or village has arisen in one place rather than in another; leading the children to see what occupations must largely engage the attention of the inhabitants of the town, as trade, manufactures, and fishing—why they could not be farmers.

19. **Education.**—Give lessons on the educational condition of the section; the advantage of education to the individual himself—personal satisfaction, effectiveness of labor guided by intelligence, avoidance of dangers, etc.; the advantages of living in a community where all are educated—gratification and sharpening of mind arising from intercourse, opening up the industries, furnishing honorable employment, diminishing poverty and crime, rendering property more valuable; hence it is just for everybody to support the school.

20. **Civil Divisions.**—Exercise the children upon distances; let them measure a quarter of a mile, and note the time occupied in walking it—how long would they be in walking a mile? how long in walking a hundred miles? how far could they walk in a day? Call attention to artificial bounds in the school section, as bounds between farms—show how bounds may be imaginary lines having definite position, as lines running through a forest or a marsh, where there is no fence. Ask for the name of the place where the children live—how far around that name extends—what places adjoin on the various sides, north, east, south, and west—in what county they are situated. Direct them to make a map of the school section, or of a portion of it, laying down the roads, the bounds between farms, and the houses.

21. **The County.**—Question the children what they have seen beyond their own school section and within the county. Get as complete a description as possible, from different children who have been from home, of the mountains, plains, streams, coast-line, villages, products, occupations, and trade of the county. Make a map of the county, laying down mountains, streams, villages, etc., according to the dictation of the children—the teacher making all necessary corrections, and supplying omissions, both in the description and on the map, and also giving some interesting details with respect to the early history of the county. Show them the importance of observing everything closely when they visit a new place; in that way they can learn the geography of the place. As opportunities occur of obtaining examples and illustrations, picture out geographical terms, as a bay, a gulf, a strait, an island, a cape, a peninsula, etc. *Direct the pupils to make a map of the county.*

22. **The Province** may now be taken up as a whole, giving first some of the interesting points of its early history, without referring much to precise dates. Tell of the Indians, their mode of life when the country was discovered—of the condition of the country at that time—of the early French settlements—the name Acadia given by the French—the capture by the English—difficulties of settlement, etc. Give an idea of the size of the Province by comparison with some known area—give lessons on the leading physical features, as mountains and rivers—the civil affairs, pursuits, government, and political relations. *Direct the pupils to make a map of the Province on a given scale.*

23. **The World.**—A few incidental lessons should now be given for the purpose of calling attention to other parts of the world. Some familiar article of foreign produce will form a good introduction. A barrel of flour, for instance, will lead to a lesson on

Ontario, or the United States; a piece of broadcloth, to one on England; an ostrich feather, to one on Africa; tea, to one on China, etc. In this way the children will see that there are many countries with which we have intercourse, and they should point in the direction in which the various countries are situated with respect to the Province. Their interest having been excited, they will be anxious to know how intercourse is carried on with foreign countries. This will lead to conversation about long voyages over the sea.

24. **Land and Water.**—Lessons may now be given on the Earth, as consisting of land and water—their proportions—the benefit arising from their relationship—how a country is benefited by inlets of the sea, referring to the bays and harbors of the Province. The great divisions of land and the great oceans can be pointed out, and their names given.

25. **Voyages.**—Question the pupils as to the mode of representing the surface of the Earth by maps—show the Hemispheres as representing the whole Earth; that, although on separate sheets and apparently two worlds, they are united. Trace voyages, carrying products of one country to another—awaken curiosity by telling of vessels pursuing generally one course, and finally arriving at the starting-point.

26. **The Earth a Globe—its Motions.**—Show a globe as a correct representation of the Earth—that this is proved by going uniformly in one direction, and at last arriving at the starting-point. Give other simple proofs. Illustrate the Earth's daily rotation—its axis—the poles—day and night. By carrying a ball around some central object representing the sun, explain the Earth's annual motion and the seasons. It can be shown that the sun is never directly above our head beyond the breadth of a belt around the middle of the Earth, equidistant from the poles, and that the sun crosses this belt twice a year—that on account of the globular form of the Earth, the sun's rays fall more and more obliquely as we go from the central belt toward the poles, and hence the cold increases.

27. **Circles.**—Lessons may now be given on the equator, the tropics, the northern and southern hemispheres, the five zones, latitude and longitude. The children having previously been taught the position of the poles, the equator can be shown as a circle midway between the poles, also as dividing in two equal parts the belt which the sun crosses twice a year. Show the importance of knowing the distance of a place from the equator—that the distance between the equator and each pole is divided into ninety equal parts called degrees of latitude—that these degrees are marked by circles parallel to the equator and to each other—that we count from one to ninety, commencing at the equator and ending at each pole. Show that Nova Scotia is about midway between the equator and the north pole. Explain how we define the position of places more definitely by lines running north and south, called *meridians*, or lines of longitude, crossing the equator at right angles and meeting at the poles—that the equator is supposed to be divided into 360 equal parts by such lines—that there is no natural place at which we can begin to count, but it is usual to begin with the meridian which passes through London, counting 180 degrees east and west. Explain the difference of time of places not on the same meridian—that it is noon in the eastern part of Nova Scotia earlier than in the western. Give the difference in time between London and Halifax, and show how the longitude may be calculated.

To prevent misapprehension respecting the preceding *Oral Exercises*, it may be well to repeat that it is designed that they should be simply *preparatory* to the systematic study of geography from the text-book. Great advantage will also result from continuing such exercises after the book has been placed in the hands of the pupil.

SCHOOL GEOGRAPHY.

Astronomical Geography, or The Earth as a Planet.

1. **The Form of the Earth.**—The Earth was formerly supposed to be an extended plane. It is now known to be a vast ball, or sphere. The following are the most obvious proofs of the Earth's spherical form:—

(1.) Navigators have often, by sailing constantly in the same direction, arrived at the place from which they set out.

The first voyage around the world was made between 1519 and 1522, under the command of Magellan.

(2.) When a ship comes in sight, we first see the tops-masts and the rigging, then the lower masts, and lastly the



DISTANT SHIPS.

hull, as if it were coming over a convex surface; and when the sailor leaves the shore, low objects are the first to disappear—the last seen are the mountain tops.

If a man six feet high were to stand by the sea-shore when the water is smooth, he could see a boat three miles distant; if he were to stand on a high rock, so as to be elevated twenty-four feet, a boat would be visible six miles distant; and so on, as in the following table:—

Elevation.	Distance seen.	Elevation.	Distance seen.
8 inches.....	1 mile.	10 feet 8 inches.....	4 miles.
1 foot 6 inches.....	1½ "	24 " 0 "	6 "
2 feet 8 "	2 miles.	42 " 8 "	8 "
6 " 0 "	3 "	98 " 0 "	12 "

(3.) An observer on the Earth's surface, or at any elevation above it, always finds that his view is bounded by a circle; and that this circle, which is called the **sensible horizon**, is enlarged in proportion to his elevation. Could he rise sufficiently high, he would see half, or nearly half, the Earth's surface. A great circle parallel to the sensible horizon, dividing the Earth into the upper and lower hemispheres, is called the **rational horizon**.

(4.) At places east or west of us, the sun rises proportionally earlier or later; and as we go north or south, new stars come in view, whilst those behind us disappear below the horizon.

(5.) The Earth always casts a circular shadow, which is the invariable form of shadow for spherical bodies only.

(6.) In cuttings for canals, a curve on the bottom of eight inches in the mile is required, to keep the water at a uniform level.

2. The Earth does not appear round, because it is so large that there is but little curvature in any portion of the surface which we can see at one time.

One might suppose, at first, that the unevenness of the land surface would be a serious obstacle to this theory respecting the form of the Earth. But the Earth is so large, that the highest mountain interferes no more with its general roundness, than the roughness of the rind with the general shape of the orange.

3. The Earth is not an exact sphere, but is slightly flattened at two opposite points called the *poles*, and bulged out near the middle or *equator*. The shape resembles that of an orange.

4. So slightly does the Earth vary from a perfect sphere, if we correctly represent its form by an artificial globe two feet in diameter, the flattening of the poles would not diminish the polar diameter one-twelfth of an inch.

5. If the Earth were an exact sphere, as one went towards either pole, the stars in that quarter of the heavens would rise uniformly according to the distance travelled. This is not quite the case; for in the vicinity of the pole a greater distance must be passed over to obtain the same increase in the elevation of any star. Hence we infer that the curvature near the poles is less. The term *oblate spheroid* expresses the exact form of the Earth.

Attraction of the Earth.—6. In lifting a stone from

the Earth, we must use our strength to overcome the resistance which it makes to a change of place. This resistance, which we call weight, is the result of the Earth's attraction—a force by which everything on the Earth's surface is drawn towards its centre. If we raise the stone and leave it unsupported, it falls, because it is pulled down by this force.

7. The weight of a body is the measure of the force with which it is attracted by the Earth. Attraction is mutual in all bodies, and in proportion to the quantity of matter they contain. Thus the stone, in proportion to its matter, attracts the Earth, as well as the Earth the stone.

8. The attractive power of the Earth acts in a right line drawn from the Earth's centre to the body attracted; and this power diminishes as the square of the distance from the centre increases. Thus, if a body weighing one pound at the surface of the Earth were removed to twice its present distance from the Earth's centre, or to a height of about 4000 miles, it would there weigh only one-fourth of a pound; if removed to three times its original distance from the centre, it would weigh only one-ninth of a pound.

9. As a body weighs nearly the same in all places on the Earth, the surface must be everywhere nearly the same distance from the centre. Hence we have an additional proof of the Earth's spherical form.

A body weighs slightly more near the poles, which is another proof that those parts of the Earth are flattened.

Cause of the Spheroidal Form.—10. When we pour water upon a revolving grindstone, the water flies off in proportion to the rapidity of the motion; also, a waggon-wheel throws more mud when we drive rapidly. If a piece of soft putty, in the form of a sphere, be made to revolve rapidly on an axis, the poles will become flattened, while the middle, or equator, will bulge out.

By supposing that the Earth, whilst in a semi-fluid state, revolved around a line passing from one pole to the other, we can account for its spheroidal form.

Size of the Earth.—11. The circumference of the Earth is nearly 25,000 miles. A railway train, moving at the rate of 60 miles an hour, would go around the Earth in about seventeen days.

Stated more exactly, the circumference of the Earth is 24,902 miles; the polar diameter is 7899.58 miles; and the equatorial diameter, 7926.59 miles. The area is about 197,000,000 of square miles.

Day and Night.—12. The Sun is the great source of light and heat. To illustrate the regular succession of day and night, place a lighted lamp beside the globe, so that it will shine from pole to pole, and turn the globe upon its axis. A fly standing on any part of the globe will have light and darkness in succession. In like manner, day and night follow each other in turn, by the rotation of the Earth around an imaginary line called the *axis*. The *North Pole* is at one extremity of the axis, the *South Pole* at the other.

13. A light shining upon a distant spherical body illuminates just one-half of its surface at once. The sun is always shining upon the Earth; therefore one-half the Earth's surface is in the light, the other in the dark. The boundary line between the light

and dark hemispheres is called the *Circle of Illumination*. As the Earth rotates, this circle is ever changing its position.

14. When moving rapidly in a rail-car we seem to be at rest, and the objects along the track to be gliding past us in the opposite direction. The rotation of the Earth from west to east gives the Sun an apparent motion from east to west.

It was once thought that the Earth was stationary, and that the Sun revolved around it daily. According to this theory, the Sun must, every twenty-four hours, describe a circle having a diameter equal to twice the distance of the Sun from the Earth; and the stars, which are inconceivably more remote, must travel correspondingly faster in order to complete their revolution in the same time.

15. The most direct proof of the Earth's rotation is furnished by an interesting experiment with the pendulum.

Unequal Length of Day.—16. In the summer we have long days and short nights; in the winter, the reverse: so that light and darkness in the course of the year are exactly equal. The longest day is the 21st of June, the shortest the 21st of December. Twice in the year—the 21st of March and the 22nd of September—day and night are equal, twelve hours each. At the Equator day and night are always equal, and the inequality is greatest near the poles.

17. At mid-summer, when the day is longest, the Sun at noon is high up in the heavens, and much more nearly overhead than in winter. This is only an apparent shifting of the Sun's position—the real change is in the Earth. The Earth not only rotates upon its axis, it also moves around the Sun in a vast circle. The path in which the Earth revolves around the Sun is called the *Earth's Orbit*.

Illustration.—18. Place a lamp on the floor to represent the Sun, and with the chalk draw a large circle around it for the Earth's orbit. Place the globe in the orbit, on the west side of the lamp, with the north pole pointing to the ceiling in the northern part of the room, in such a manner that the axis shall be parallel to the west side of the room, and inclined towards the northern wall about one-fourth the distance between a vertical line and a horizontal.* The lamp will now shine from pole to pole, and if the globe be turned on its axis, it will illustrate the equality of day and night in the spring.

Without changing the inclination of the axis or its parallel position with respect to the west wall, move the globe through one-fourth the orbit, so that it shall stand on the south side of the lamp. The rays of light will extend beyond the north pole, illuminating more than half the northern hemisphere, and less than half the southern. We have here the position of the Earth at mid-summer. By moving the globe in the same manner to the east and north sides, we shall have the Earth's position in the autumn and at mid-winter.

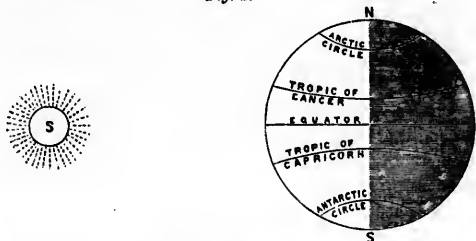
19. The Earth thus makes a revolution around the Sun once a year, during which it presents different parts of its surface directly to the Sun. Hence the difference in the length of day and night. The accompanying diagrams represent the Earth in its relation to the Sun at different times of the year. In figure 1, the Sun is vertical at the Equator; in figure 2, it is vertical at the Tropic of Cancer; and in figure 3, at the Tropic of Capricorn. In figure 2, the whole space within the Arctic Circle has constant day; in figure 3, it has constant night.

20. An imaginary plane, extending from the centre of the Sun to the Earth's orbit, and indefinitely beyond, is called the *Plane of the Earth's Orbit*. If the Earth revolved around the Sun with

* It should be inclined 23½ degrees from the perpendicular.

its axis perpendicular to the plane, the plane would cut the Earth at the Equator, and the Sun would always be vertical at the Equator.

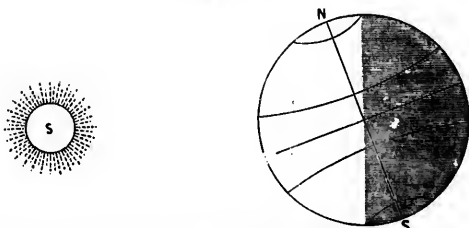
Fig. 1.



DAY AND NIGHT EQUAL,
March 21st and September 22nd.

tor, as in figure 1. But the axis is inclined $23\frac{1}{2}$ degrees from the perpendicular, and this inclination causes the circle described on

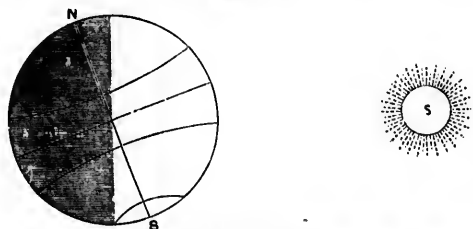
Fig. 2.



LONG DAYS AND SHORT NIGHTS IN THE NORTHERN HEMISPHERE,
June 21st.

the Earth, by the plane, to cut the Equator at an angle of $23\frac{1}{2}$ degrees. This circle is called the *Ecliptic*. As the Sun appears to

Fig. 3.



SHORT DAYS AND LONG NIGHTS IN THE NORTHERN HEMISPHERE,
December 21st.

move in the opposite edge of the plane, its annual path is also called the *Ecliptic*.

21. The axis of the Earth always maintains the same inclination and direction, so that in any part of the orbit it is parallel with itself in every other part. A star situated in the northern heavens, near the spot to which the North Pole points, is called the *north star*.

22. The plane of the Earth's orbit may be illustrated by a large circular sheet of tin with a hole in the middle, through which a lamp is placed so that half the flame is above the plate and half below. A ball with a wire through the middle, representing the Earth and its axis, can now be carried round the outer edge of the tin, keeping the proper inclination of the axis.

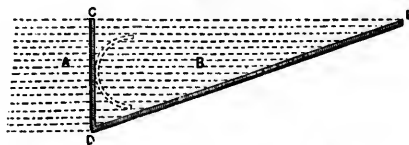
Apparent Motion of the Sun.—23. In the spring and autumn the Sun is vertical at the Equator. It then appears to describe a circle in the heavens directly over the Equator. This circle is called the *Equinoctial* (*equa nox*, equal night), because day and night are then equal at all places. In pursuing its apparent annual path in the *Ecliptic*, the Sun during our summer is north of the Equinoctial; during our winter, south. The Sun, therefore, crosses the Equinoctial twice during the year. The points in which the *Ecliptic* and Equinoctial cut each other are called *Equinoxes*,—the *Vernal* and *Autumnal* Equinox. The Sun's distance north or south of the Equinoctial is called his *Declination*.

24. During the three months succeeding the Vernal Equinox the Sun's northern declination is constantly increasing, acquiring its maximum on the 21st of June— $23\frac{1}{2}$ degrees. The Sun now appears to be stationary for a little; then to turn back towards the Equator. The northern point in the *Ecliptic* is called the *Summer Solstice* (*Sol*, the Sun; and *sto*, I stand). In like manner, the point marking the greatest declination south is called the *Winter Solstice*. The circles which the Sun describes $23\frac{1}{2}$ degrees each side of the Equator, are called *Tropics* (*trepo*, I turn)—the *Tropic of Cancer* on the north, and the *Tropic of Capricorn* on the south.

25. When the Sun is vertical at either tropic, the rays fall $23\frac{1}{2}$ degrees beyond the pole on the same side of the Equator. The polar circles are supposed to be drawn at this distance from the poles—the *Arctic Circle* at the north, and the *Antarctic Circle* at the south.

Change of Seasons.—26. If we hold a board upright before the fire, so that the rays fall perpendicularly upon its surface, it will receive much more heat than when we incline it away from the fire. In the former case more rays fall upon a given space than in the latter. This is illustrated in the annexed diagram. The rays *a b*, which fall perpendicularly on *c d*, are spread over a space three times as long by falling obliquely on *d e*. If *c d* were bent to a

Fig. 4.



VERTICAL AND OBLIQUE RAYS.

semicircle, as in the dotted line, a similar effect would be produced.

27. If the Earth were an extended plain, all parts of its surface would receive an equal quantity of the Sun's rays. Its spherical form causes the surface to incline away from the Sun, and so to receive less heat, as we go north or south of that part where the Sun is vertical. Now as the Sun is ever apparently moving from one tropic to the other, the in-

clination of the rays at any given place must be constantly changing, and consequently the temperature, at different times of year, is very unequal. Hence we have *Spring, Summer, Autumn, and Winter*.

28. The difference of temperature, at different times of year, is much less within the tropics, where the Sun is always nearly vertical, than near the poles.

Cause of the Earth's Annual Motion.—29. If we whirl a stone rapidly, as illustrated in the diagram, two forces are employed in producing circular motion—a force given by the hand in throwing the stone forward, and the power of the string preventing it from flying off.

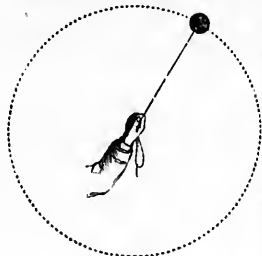


Fig. 5.
CIRCULAR MOTION.

In a somewhat similar manner, the Earth's revolution around the Sun is occasioned by the nice balancing of two forces—one impelling it forward in a straight line, called the *centrifugal force* (*centrum, the centre, and Augio, I flee*), and the attractive power of the Sun, called the *centripetal force* (*centrum, and peto, I seek*).

30. The accompanying diagram represents the Earth in its orbit around the Sun. If the centripetal force were destroyed, the Earth would fly off along the tangent *ef*; if the centrifugal force ceased to act, the Sun would at once draw the Earth to

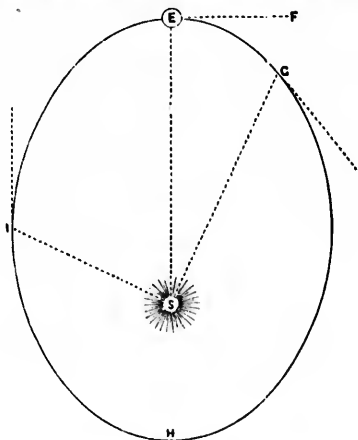


Fig. 6.
EARTH'S ANNUAL MOTION.

itself. The combined effect of the constant acting of the two forces is to carry the Earth around the Sun in the elliptical orbit *eghi*.

31. The elliptical form of the orbit is occasioned by the varying power of the centrifugal force in different parts of the orbit.

At *e* the two forces act at right angles; through the half of the orbit, *egh*, the angle is less, and the two forces act more in harmony. The Earth is now rapidly approaching the Sun, so that at *h* it is three millions of miles nearer than at *e*.

32. The two forces, acting so nearly in conjunction, increase the velocity of the Earth, and the increased velocity strengthens the centrifugal force. The Earth is accordingly driven away from the Sun through the half of the

orbit *h i e*. The forces are here acting nearly in opposition to each other; hence the velocity is diminished, the centrifugal force is weakened, and the Earth is brought back in obedience to the centripetal force.

33. The Earth's orbit is not so elliptical as it appears in the figure. The longer diameter is about the one-sixtieth part more than the shorter. The Earth is said to be in *perihelion* when nearest the Sun, in *aphelion* when furthest from it.

The Earth is in perihelion in our winter. As it moves more rapidly in this part of its orbit, the time from the autumnal to the vernal equinox is about eight days less than from the vernal to the autumnal.

Circles.—34. As the Earth is a sphere, all lines drawn around it are circles. Those circles which measure the circumference of the Earth, or divide its surface into two equal portions, are called *great circles*; those which divide the surface unequally, are *lesser circles*. The Equator and Ecliptic are great circles; the Tropics and Polar Circles are lesser circles.

35. Every circle is supposed to be divided into 360 equal parts, called degrees; each degree into 60 minutes; and each minute into 60 seconds. Degrees, minutes, and seconds have their appropriate signs,—thus, $49^{\circ} 25' 30''$, is read 49 degrees, 25 minutes, and 30 seconds.

The length of a degree varies according to the size of the circle of which it forms a part.

Zones.—36. The tropics and the polar circles divide the Earth into five belts or *zones*, which vary in temperature according to their distance from the Equator. (See 28.) The belt between the tropics, being the most directly exposed to the Sun's rays, is the hottest portion of the Earth, and is therefore called the *Torrid Zone*.

The Sun's rays fall very obliquely upon the portions within the polar circles, and the cold is intense; consequently they are called *frigid zones*—the *North Frigid* and the *South Frigid*.

Those belts which are situated between the tropics and the polar circles are free from the extremes of heat and cold, and are called *temperate zones*—the *North Temperate* and the *South Temperate*.

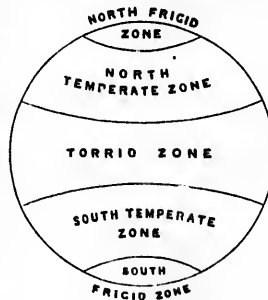


Fig. 7.
ZONES.

37. If the Earth's surface were divided into 100 equal parts, these parts would be distributed among the zones nearly as follows:—40 in the Torrid Zone, 20 in each Temperate Zone, and 4 in each Frigid Zone.

Latitude.—38. The position of a place may be given by stating the zone in which it is situated. We often wish to be more definite, and it is both natural and convenient to give the distance from the Equator. This distance is called

latitude. If a place is on the north of the Equator, it has *north latitude*; if on the south, *south latitude*.

The distance from the Equator to either pole is 90°, which is the highest latitude any place can have.

39. Latitude is indicated on maps and globes by lines or circles, called *parallels of latitude*, which are drawn east and west between the equator and the poles. Degrees of latitude are numbered on lines running north and south, or along the sides of the map.

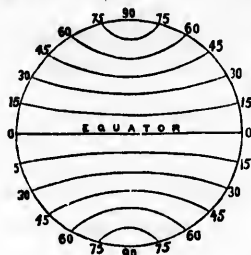


Fig. 8. PARALLELS.

40. The most simple mode of finding latitude in the northern hemisphere is by taking the altitude of the north star. At the Equator this star is always in the northern horizon, and as we travel north it rises regularly in proportion to the distance travelled, until at the North Pole it is directly overhead: that is, at the Equator the altitude is 0; at the pole 90°; and at all intermediate places it is exactly equal to the latitude of the place. Thus at Halifax the altitude of the north star is 44° 38', which is the latitude.

41. Latitude can also be determined from the meridian altitude of the Sun—that is, the height at noon. When the Sun is in the Equinoctial, the meridian altitude at the Equator is 90°, and the altitude becomes less as the latitude increases, until at the pole the Sun appears in the horizon. Therefore, to obtain the latitude, we subtract the altitude from 90°.

42. When the sun is not in the Equinoctial, and we are on the opposite side, we add the declination to the altitude, and subtract the sum from 90°, for the latitude; if we are on the same side as the Sun, we first subtract the declination from the altitude, and then subtract the remainder from 90°. The Sun's altitude at Halifax on the 21st of June is 68° 52'; from this subtract 23½°, the declination north on that day, and we have 45° 22'; subtract this from 90°, and the remainder, 44° 38', is the latitude.

Measurement of the Earth.—43. By observation, we should find that the elevation of the polar star at Halifax is 44° 38'; if we go due north until the star has an elevation of 45° 38', we shall have travelled one degree of the Earth's circumference. We would find by measurement that the distance travelled was 69½ English miles, which, multiplied by 360—the number of degrees around the Earth—give 24,902 miles for the Earth's circumference.

44. Near the poles, a greater distance must be passed over to obtain the same increase of elevation in the polar star; hence a degree of latitude is slightly greater in high latitudes. (See *Form of the Earth*, 3.)

Longitude.—45. All places due north or south of each other have noon at precisely the same time; hence, lines drawn north and south from pole to pole are called *meridians* or *noon lines*. Every place is supposed to have a meridian passing through it.

46. We say that Halifax is in north latitude 44° 38'; by which we state that it is situated somewhere on a circle passing round the Earth at that distance from the Equator. How shall we determine the precise point which the city occupies in the circle?

47. We naturally commence at the Equator in estimating latitude; but there is no such natural line at which we can begin in reckoning distance east and west. We therefore fix upon some one meridian and name it the *first meridian*. Distance from this first meridian is called *longitude*, which is either *east* or *west*.

48. It is convenient that all reckon from the same meridian. Accordingly, throughout the British Empire, and generally in the United States, that which passes through the Royal Observatory at Greenwich, London, is taken as the first, and a place is said to have east or west longitude according as the meridian which passes through it is east or west of that which passes through London.

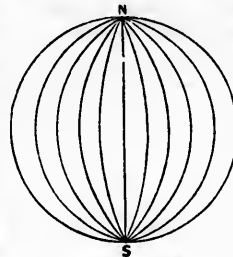


Fig. 9. MERIDIANS.

49. Meridians are counted by semicircles: thus, the first meridian terminates at the poles, and the other half of the circle, on the opposite side of the Earth, is 180° distant, which is the greatest longitude a place can have. Degrees of longitude are marked on the equator of globes and hemisphere maps—at the top and bottom of other maps.

50. As the meridians all meet at the poles, it will be seen that they are converging lines, and that a degree of longitude becomes constantly less as we approach the poles.

The Earth's circumference east and west being rather greater than from north to south, a degree of longitude at the Equator slightly exceeds a degree of latitude.

51. The Earth's revolution upon its axis from west to east, once in 24 hours, causes an apparent motion of the Sun around the Earth in the same time, but in the opposite direction. The Sun thus traverses 360° in 24 hours, or 15° in 1 hour, or 1° in 4 minutes. Therefore for every degree we travel west the Sun will be 4 minutes later in coming to our meridian; that is, noon, as well as every other hour in the day, will be that much later. If we travel east, the time will be earlier.

To Find Longitude.—52. To determine our distance east or west of London, that is, our longitude, we compare London time with our own. A nicely constructed time-piece, called a chronometer, shows the time at London, and we are one degree east or west of London for every four minutes by which our time is faster or slower than the chronometer.

53. The following table shows the length of a degree of longitude in different latitudes:—

Degree of latitude.	Geographical miles.	English miles.	Degree of latitude.	Geographical miles.	English miles.
0	60.00	69.07	50	38.57	44.35
5	59.77	68.81	55	34.41	39.68
10	59.00	67.06	60	30.00	34.60
15	57.95	66.06	65	25.30	29.15
20	56.33	64.84	70	20.52	23.00
25	54.38	62.53	75	15.53	17.88
30	51.96	59.75	80	10.42	11.98
35	49.15	56.51	85	5.23	6.00
40	45.90	52.85	90	0.00	0.00
45	42.43	48.78			

OUTLINE OF THE SOLAR SYSTEM.

The Sun.—54. The Sun is the great source of light and heat. We have seen that day and night and the seasons are caused by certain motions of the Earth, turning the various parts of its surface towards the Sun and away from it in regular succession.

The Sun is so far removed from us, that, by travelling 60 miles an hour, it would take one hundred and eighty years to travel an equal distance. Light moves so rapidly, that it occupies only about eight minutes in coming to us from the Sun.

55. The Sun's distance from the Earth is not yet determined to the entire satisfaction of astronomers; but its true value probably does not differ much, one way or the other, from 92,800,000 miles. The Sun's distance is the standard by which the size and distance of all the heavenly bodies beyond the Moon are calculated. Assuming 92,800,000 as the distance, then the Sun's diameter is about 864,000 miles; its size or cubic measurement is about 1,200,000 times larger than that of the Earth; and its weight about 330,000 times greater.

The Earth a Heavenly Body.—56. During a portion of the year a large and beautiful star may be seen in the western heavens, shortly after sunset. This evening star is the planet Venus. The Earth is very much such a body as this star. It is about the same size, and, if viewed from the same distance, would probably look much like it. Astronomers inform us that Venus, like the Earth, rotates upon its axis and revolves around the Sun.

Planets.—57. There are many other celestial bodies similar to

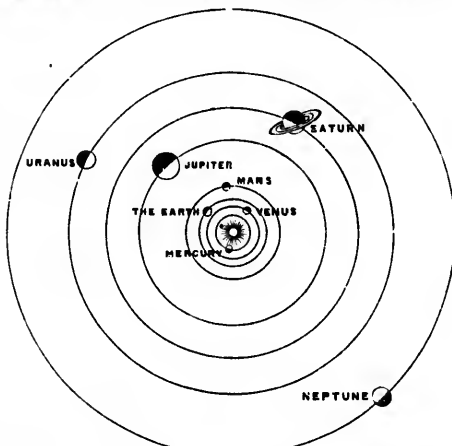


Fig. 10.
SOLAR SYSTEM.

the Earth and Venus, which revolve around the Sun. All such bodies are called *Planets*. Some of the planets are smaller than

the Earth, and some are very much larger; some are much nearer the Sun, others are greatly more remote. All are opaque bodies.

58. The following are the eight largest planets, in the order of their distance from the Sun:—*Mercury, Venus, the Earth, Mars, Jupiter, Saturn, Uranus, and Neptune.*

Mercury, Uranus, and Neptune cannot be seen without the aid of a telescope.

Their orbits form concentric circles, or rather ellipses, as in the preceding diagram; but not all in the same plane.

Between the orbits of Mars and Jupiter are many small planets, usually called *Planetoids* or *Asteroids*. The number now known is over 210: all have been discovered within the present century.

Moons.—59. The Moon is an opaque body, and it shines by reflecting the light of the Sun. It accompanies the Earth around the Sun, and whilst making this revolution it revolves 13 times around the Earth. It thus makes a revolution round the Earth in 27 days, 7 $\frac{1}{4}$ hours; and as it turns upon its own axis in the same time, it always presents the same face to us. It is about 240,000 miles distant from the Earth, and its diameter is 2160 miles.

60. The Moon being a spherical body, the Sun shines upon only half of its surface at once. It appears in different phases, according to the extent of the illuminated surface presented to us. When the Moon is on the opposite side of the Earth from the Sun, the whole illuminated hemisphere is turned towards us. This phase is called *full moon*. When the moon is so situated between the Earth and the Sun that we only see the edge of the illuminated hemisphere, we call it *new moon*.

61. When the moon passes immediately between the Earth and the Sun, it cuts off the light of the Sun from a portion of the Earth's surface, causing an eclipse of the Sun.

Again, when the Earth, in a similar manner, intercepts the rays, and throws the Moon in shadow, we have an eclipse of the Moon. An eclipse of the Sun can take place only at new moon; an eclipse of the Moon only at full moon.

Eclipses do not occur at every new and full moon, because the orbits of the Earth and Moon not being in the same plane, these bodies and the Sun are seldom in a straight line.

62. Mars, Jupiter, Saturn, Uranus, and Neptune are also accompanied by moons. The moons are sometimes called *satellites* and *secondary planets*. By observing the eclipses of Jupiter's satellites, London time can be ascertained in any part of the world where the eclipse is visible. The observer requires a nautical almanac in which the calculation for the eclipse is made for London.

63. The Sun, the Planets, the Moons, and a class of bodies called Comets, form the *Solar System*. The following table gives various facts relative to the Planets:—

Planets.	Diameter in Eng. miles.	Distance from the Sun in Eng. miles.	Length of Year in days.	No. of Moons.
Mercury	3,005	35,800,000	88	..
Venus	7,093	67,000,000	225	..
Earth	7,913	92,800,000	365	1
Mars	4,229	141,000,000	687	2
Jupiter	86,379	482,000,000	4,333	4
Saturn	70,800	885,000,000	10,759	8
Uranus	31,800	1,777,000,000	30,687	6
Neptune	34,650	2,787,000,000	60,186	1

Fixed Stars.—64. The Solar System comprises only a few of the celestial bodies. The others are called *Fixed Stars*, because they do not change their position with reference to each other; they are distinguished by their silvery twinkling light. They are supposed to be suns forming centres of systems like the solar system. Light comes from the Sun to us in about eight minutes; but the nearest

fixed star is so remote that light is $3\frac{1}{2}$ years in travelling from it to the Earth.

EXERCISES.

The following Exercises will test the pupil's knowledge of some of the principles explained in the preceding sections:—

1. Why should the sailor climb to the top-mast when he wishes to see the distant shore?
2. How much does the Earth curve in a mile?
3. At what elevation above the Earth would one be able to see half its surface?
4. What are the two theories by which day and night can be explained? and give the principal arguments in favour of the true theory.
5. Just as the 9 o'clock gun was fired at Halifax, I observed by the chronometer that it was 14 minutes past 1 on the following morning at London. What is the longitude of Halifax?
6. Find in the Northern Hemisphere a city at which the altitude of the Sun on the 21st of June is $83^{\circ} 30'$; the chronometer showing London time to be 5 minutes to 10, a.m., when it is noon in the city.
7. Find a city in which one has no shadow on the longest day in the year, and on every other day the shadow falls to the north; and at which it is 32 minutes past 7, p.m., when it is noon at London.
8. When it is noon at London, what is the time at St. John, Quebec, Ottawa, Toronto, Winnipeg, and Victoria?
9. It is said that at the poles the year is divided into two periods, six months day, and six months night; also, that when the Sun is vertical at the Equator, the days and nights are twelve hours long over all parts of the Earth. Explain these contradictory statements.
10. Find a cape in the Northern Hemisphere at which, on the longest day in the year, the Sun sets and, without any intervening night, rises immediately in the same part of the horizon; and also where it is 20 minutes to 1, a.m., when it is noon at London.
11. Two sailors left St. John on a voyage round the world, the one going east, the other west. On the following Christmas they met at the same place. The one who had travelled east asserted that the preceding day was Christmas; the one who had travelled west, that the next day was Christmas. Explain the causes of the mistake.
12. Suppose that the travellers, in the preceding case, went round the world on the parallel of 45° , how many miles did each travel?
13. What advantage in respect to the Sun's rays has the Northern Hemisphere over the Southern, and why?
14. Explain why an eclipse of the Sun can take place only at new moon, and an eclipse of the Moon only at full moon.

THE TERRESTRIAL GLOBE.

65. The Terrestrial Globe is a representation of the Earth, showing its form, rotatory motion, the parallels, meridians, and relative situation of places. It also enables us to illustrate many important principles respecting the Earth in its relations to the Sun.

The Wooden Horizon.—66. The globe is suspended in a wooden ring called the *Wooden Horizon*, which represents the rational horizon, and divides the globe into the upper and lower hemispheres. The upper surface of the wooden horizon is divided into six concentric circles, one of which gives the 32 points of the compass.

67. The innermost circle of the wooden horizon shows the *amplitude* of the heavenly bodies—that is, the arc of the horizon lying between the point where a body rises or sets and the east or west point of the horizon.

The second circle shows the *azimuth* of the celestial bodies, or the arc of the horizon between a vertical circle passing through the body and the north and south points of the horizon.

The third circle gives the points of the compass; the fourth, the 12 signs of the zodiac; the fifth, the months and days corresponding to the signs and degrees; and the sixth, the 12 calendar months.

The Brazen Meridian.—68. A circle of brass, passing round the globe at right angles to the equator, is called the *Brazen Meridian*, and sometimes the *Universal Meridian*. It is divided into four equal parts or quadrants, each graduated from 0 to 90° . Two of the quadrants are numbered from the equator to the poles, for showing the latitude; and two from the poles to the equator, enabling us to elevate the poles to any required height.

The Quadrant of Altitude.—69. A thin slip of brass, corresponding in its graduation to the brazen meridian, is called the *Quadrant of Altitude*. It is numbered from 0 to 90° , to enable us to find the distance between places; and also from 0 to 18° , for finding the duration of twilight.

The Hour Circle.—70. A circle, either of brass or marked upon the globe, around the north pole, is called the *Hour Circle*. It is divided into 24 equal parts, representing hours. It enables us to find the difference of time between places, and also the length of the day.

PROBLEMS.

I. To find the latitude and longitude of any place:—

Bring the given place to the graduated edge of the brazen meridian: the degree marked over it is the latitude; and the degree on the equator, cut by the same edge of the brazen meridian, is the longitude.

EXERCISES.—Find the latitude and longitude of the following places:—

	Latitude.	Longitude.
1. Halifax.....	Ans. $44^{\circ} 38' N.$;	$63^{\circ} 36' W.$
2. Ottawa.....	$45^{\circ} 25' N.$;	$75^{\circ} 45' W.$
3. Charlottetown.....	$46^{\circ} 14' N.$;	$63^{\circ} 10' W.$
4. Quebec.....	$46^{\circ} 49' N.$;	$71^{\circ} 13' W.$
5. St. John.....	$45^{\circ} 14' N.$;	$68^{\circ} 3' W.$
6. London.....	$51^{\circ} 30' N.$;	0 Lon.
7. Paris.....	$48^{\circ} 50' N.$;	$2^{\circ} 20' E.$
8. Cairo.....	$30^{\circ} 2' N.$;	$31^{\circ} 15' E.$
9. Cape Town.....	$33^{\circ} 56' S.$;	$18^{\circ} 28' E.$
10. Calcutta.....	$22^{\circ} 33' N.$;	$88^{\circ} 19' E.$
11. Washington; Jerusalem; North Pole; New Orleans; Quito; Melbourne.		

II. The latitude and longitude being given, to find the place;—

Find the given meridian on the equator and bring it to the brazen meridian; find the given latitudes on the brazen meridian, and beneath it is the required place.

When the place is found, all others having the same longitude can be found, by tracing along the edge of the brazen meridian

uch nearer
e bodies.
e order of
rth, Mars,

out the aid

, as in the

all planets,
y known is
entury.

shines by
rth around
s 13 times
e Earth in
n the same
out 240,000
miles.

upon only
s, accord-
us. When
e Sun, the
This phase
between the
lluminated

Earth and
tion of the

ts the rays,
the Moon.
an eclipse

because the
plane, these

ompanied by
planets. By
s ascertained
ver requires
is made for

bodies called
ves various

No. of Moons.
..
1
2
4
8
6
1

few of the
cause they
; they are
supposed
em. Light
the nearest

from pole to pole; and by turning the globe, all places having the same latitude will pass under the same degree on the brazen meridian.

EXERCISES.—Find the places situated as follows:—

1. N. lat. $41^{\circ} 54'$ and E. lon. $12^{\circ} 27'$*Ans.* Rome.
2. N. lat. 39° and W. lon. 28°Azores.
3. S. lat. $55^{\circ} 58'$ and W. lon. $67^{\circ} 11'$Cape Horn.
4. S. lat. $33^{\circ} 56'$ and E. lon. $18^{\circ} 28'$Cape Town.
5. N. lat. $43^{\circ} 39'$ and W. lon. $79^{\circ} 23'$
6. N. lat. $45^{\circ} 31'$ and W. lon. $73^{\circ} 35'$

III. To find the distance between two places:—

Find the number of degrees between the places with the quadrant of altitude; and multiply by 60 for geographical miles, or by 69½ for English miles.

If the distance is more than 90° , measure it with a thread, and find the number of degrees by applying the thread to the equator.

EXERCISES.—Find the distance in English miles between the following places:—

1. Halifax and Montreal.....*Ans.* 400 Eng. miles.
2. Cape Horn and Cape of Good Hope.....4146 "
3. Newfoundland and Ireland.....1830 "
4. Newfoundland and Vancouver Island.....2900 "
5. A ship sails from Halifax to Liverpool in England; thence to New York; thence to Rio Janeiro; then to St. John: what is the whole distance?
6. Find the distance between Anticosti and Hamilton.

IV. Two places given and the time at one, to find the time at the other:—

Bring the place at which the time is given to the brazen meridian; set the hour circle or index to the given time; turn the globe until the other place is brought to the brazen meridian: the hour circle will show the required time.

EXERCISES.—The following can be verified by calculation:—

1. When it is 12 o'clock noon at London, what is the time at Halifax? *Ans.* 7h. 46m. A.M.
2. When it is 1 o'clock in the afternoon at Alexandria, what time is it at Philadelphia? *Ans.* 6 A.M.
3. When it is 9 o'clock in the morning at Halifax, what is the time at Ottawa? *Ans.* 8h. 12m. A.M.
4. When it is noon at London, what is the time at Fredericton?
5. What is the difference in the time at Victoria and that at each of the following places—Winnipeg, London, Hamilton, Toronto, Montreal, Quebec, St. John, Halifax?
6. When it is 4 o'clock in the afternoon at London, what is the time at St. Petersburg? *Ans.* 6 P.M.
7. When it is noon at Halifax, what time is it at Melbourne? *Ans.* 1h. 54m. A.M.

V. To find the antipodes, or place directly opposite:—

Set the poles of the globe on the horizon; turn the globe until the given place comes to the eastern horizon; observe the number of degrees the place is north or south of the eastern point of the horizon: the antipodes will be the same number of degrees on the opposite side of the western point.

EXERCISES.—Find the antipodes of the following places:—

1. London.....*Ans.* Antipodes Island (nearly).
2. Halifax..... $45^{\circ} 22'$ S. lat.; $116^{\circ} 24'$ E. lon.
3. The Bermudas.....The south-west of Australia.
4. Cape Horn.....The east of Lake Baikal.

VI. To rectify the globe for a given place:—

Elevate the pole on the same side of the equator, as many degrees above the wooden horizon as are equal to the latitude of the place.

When the globe is rectified, if the given place be brought to the brazen meridian, it will be at the highest part of the globe, and the wooden horizon will become the true horizon of the place.

EXERCISES.—Rectify the globe for the following places:—

Halifax, St. John, Quebec, Ottawa, Toronto, Winnipeg, Mexico, Juan Fernandez, St. Helena, Quito, Calcutta.

VII. To illustrate the three positions of the sphere, or the aspect of the heavens at the equator, the poles, and any intermediate place:—

1. **At the Equator.**—Place the poles in the horizon. It will be seen, by turning the globe, that the equator and parallels always cut the horizon at right angles; that whatever may be the Sun's declination, he will cut the horizon at right angles at sunrise and sunset; and that as the parallels are all divided equally by the horizon, day and night must be equal throughout the year.

This is the aspect to one situated at the Equator, and is called the *right sphere*.

2. **At the Pole.**—Elevate the north pole 90° . The equator now corresponds with the horizon, and all the parallels are parallel with it. It is manifest that all the celestial bodies north of the equinoctial must be constantly visible and move around in circles, as the Earth revolves, the size of the circle depending on their elevation.

The Sun will come above the horizon at the vernal equinox, and will move around the horizon in a kind of spiral, rising higher every day, until he attains his extreme elevation at the summer solstice, when he will descend, until he sets at the autumnal equinox, not to appear again for six months.

Such is the aspect of the North Pole. It is called the *parallel sphere*.

3. **Between the Equator and the Pole.**—By taking different positions on the globe, as 10° , 20° , 30° , and rectifying the globe to the several latitudes, we shall find that as we approach the pole, the equator, parallels of latitude, and the Sun at his rising and setting, cut the horizon more obliquely. Any such position is called an *oblique sphere*.

To illustrate further: elevate the north pole 45° , the latitude of the middle of Nova Scotia, the south of New Brunswick and Quebec, and the middle of Lake Huron.

The polar star has here an elevation of 45° , and all the stars within that distance of the polar star will be constantly above the horizon, moving around in circles. It will be seen that the horizon divides the equator equally, and all the parallels unequally, and hence that when the Sun is in the equinoctial day and night must be equal, and at all other times unequal; also, that from the vernal to the autumnal equinox, when the Sun is in the Northern Hemisphere, the days will be longer than the nights, and during the other half of the year, shorter.

We can see, too, how twilight is longer in high latitudes than near the Equator, for a place can have twilight only when the Sun is within 18° of the horizon.

VIII. To find the length of a degree of longitude in any given latitude:—

With the quadrant of altitude take the distance between any two consecutive meridians along the given parallel, and multiply by 4, for geographical miles. To convert geographical to English miles, multiply by 69½, and divide by 60.

The meridians are laid down upon the globe 10° apart, making 24 in all, one for each hour in the difference of time.

Exercises can be taken from the table, section 53.

IX. To find the Sun's place on the ecliptic on any given day:—

Find the day of the month on the wooden horizon, and opposite to it, in the circle containing the signs of the zodiac, are the sign and degree in which the Sun is situated on that

day; find the same sign and degree of the ecliptic on the globe, which is the Sun's place.

EXERCISES.—Find the Sun's place on the following days:—

1. March 20..... *Ans.* Aries.
2. May 11..... *Ans.* 21st degree of Taurus.
3. August 10.....
4. December 21.....
5. February 4.....

X. To find the Sun's declination on any given day:—

Find the Sun's place in the ecliptic for the given day, and bring that place to the brazen meridian: the degree marked over it is the declination.

By turning the globe, all places to which the Sun is then vertical will pass under that degree.

EXERCISES.—Find the Sun's declination on the following days, and the places to which he will then be vertical:—

1. May 10..... *Ans.* 17° 30'.
2. June 21..... *Ans.* 23° 27'.
3. September 21.....
4. January 10.....

XI. To find the hour at which the Sun rises and sets at a given place on a given day:—

Rectify the globe for the latitude of the place; find the Sun's place in the ecliptic, and bring it to the brazen meridian. Set the hour circle to 12; turn the globe till the Sun's place comes to the eastern edge of the wooden horizon, and the hour circle will show the time at which the Sun rises. Turn the globe till the Sun's place comes to the western horizon, and the hour circle will show the time of sunset.

Having the time of sunrise and sunset, the length of the day can readily be found. Also, the amplitude of the Sun can be found by observing the point cut in the horizon by the Sun's place in the ecliptic.

EXERCISES.—Find the time at which the Sun rises and sets; also the length of the day and the amplitude of the Sun on the 21st of June and the 21st of December, at the following places:—

1. Halifax; 2. St. John; 3. Quebec; 4. Montreal; 5. Ottawa; 6. Toronto;
 7. Winnipeg; 8. London; 9. Canton; 10. Cape Town.
- Ans.* (1.) Rises, 21st June, 4h. 14m.; sets, 7h. 48m.
Ans. (2.) Rises, 21st December, 7h. 45m.; sets, 4h. 15m.

XII. To find the duration of twilight at a given place on a given day:—

Rectify the globe for the latitude of the place; bring the Sun's place in the ecliptic, on the given day, to the brazen meridian; set the hour circle to 12; fasten the quadrant of altitude upon the brazen meridian, over the given latitude; turn the globe till the Sun's place comes to the western edge of the wooden horizon. The hour circle will now show the time of the Sun's setting, or the beginning of twilight. Continue the motion of the globe westward until the Sun's place coincides with 18° on the quadrant of altitude below the horizon, and the hour circle will then show the time at which twilight ends.

EXERCISES.—Find the duration of twilight on the 20th March, 21st June, 23rd September, and 21st December, at the following places:—

1. Dominion of Canada (parallel of 45°); 2. Orkney Islands; 3. Norway (66° 30'); 4. The Equator.
- Ans.* The length of twilight at the above places, on 20th March and 23rd September, is—(1.) 1h. 30m.; (2.) 2h. 45m.; (3.) 3h. 15m.; (4.) 1h. 12m.

XIII. To find the length of the longest day and the longest night at any given place in the North Frigid Zone:—

Rectify the globe to the latitude of the place; bring the ascending signs of the ecliptic—that is, those going before Cancer—to the north point of the horizon, and observe what degree of the ecliptic is cut by that point; find on the wooden horizon the day and month corresponding to that degree, which will be the commencement of the longest day. Bring the descending signs—those after Cancer—to the north point of the horizon, and observe what degree of the ecliptic is cut by that point; the corresponding day on the wooden horizon will show the time of sunset.

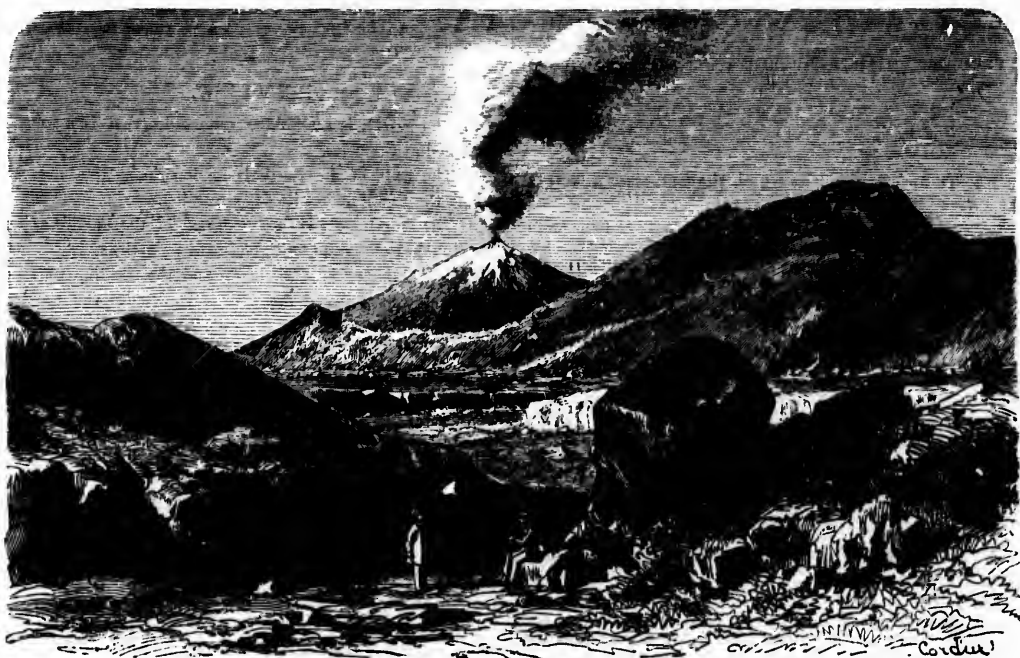
The beginning and end of the longest night can be found, by proceeding in the same manner with the southern point of the horizon.

EXERCISE.—Find the length of the longest day at Cape North, 71° 30' N. lat.
Ans. Seventy-seven days. The sun rises on the 14th of May, and sets on the 30th of July.

REVIEW.

1. The Earth is an oblate spheroid,—that is, a sphere flattened at the poles.
2. The axis of the Earth is an imaginary line, around which the Earth makes its daily rotation.
3. The North Pole is the north end of the Earth's axis; the South Pole is the south end of the Earth's axis.
4. The Equator is a circle around the Earth, east and west, midway between the poles. It divides the Earth's surface into two equal parts,—the Northern Hemisphere to the north of the Equator, and the Southern Hemisphere to the south of the Equator.
5. Parallels of latitude are circles around the Earth, east and west, between the Equator and the poles. They determine distance from the Equator. This distance is called latitude; and it is either north latitude or south latitude, according as it is north or south of the Equator. The highest latitude is at the poles, 90°.
6. The Arctic Circle is a parallel of latitude 23½ degrees from the North Pole; the Antarctic Circle is a parallel 23½ degrees from the South Pole.
7. The Tropic of Cancer is a parallel of latitude 23½ degrees north of the Equator; the Tropic of Capricorn is a parallel 23½ degrees south of the Equator. Meridians are imaginary lines or half circles running north and south from Pole to Pole, and crossing the Equator at right angles. The meridian passing through Greenwich in London is taken as the first meridian, and the others mark the distance east or west from the first meridian. This distance is called longitude, which is either east longitude or west longitude. The highest longitude a place can have is 180°.
8. The Ecliptic is an imaginary great circle in the heavens representing the path of the Earth in its annual revolution around the Sun; it is also the apparent path of the Sun about the Earth.

Physical Geography.



MOUNT HECLA.

The Earth's Crust.—1. The outer portion of the Earth is called the *crust*. Near the surface we usually find loose materials, called soil, earths, gravel, and stones. On digging through these we come to solid rock.

Miners have penetrated into the Earth's crust nearly 4000 feet. The greatest depth reached below the level of the sea is about 2000 feet, in Prussia.

2. The materials forming the Earth's crust are divided into *Simple and Compound Substances*. All compound bodies can be separated into two or more simple bodies. *Gold* is a simple substance, because it cannot be resolved into elementary parts. *Water* is a compound substance, because it can be separated into

the elements *oxygen* and *hydrogen*. The number of elements, or simple substances, so far as discovery has determined, is about sixty-four. They are sometimes found in their simple state, but more frequently two or more are combined, thus forming the material of which everything mineral, vegetable, and animal is composed.

3. This material brought under the power of vegetable or animal life is called *Organic Matter*. It seems strange that the beautiful and fragrant rose, and even our bodies, should be identical in substance with the earths and gases. Such is the fact.

4. The loose earth called soil is formed from decayed vegetable and animal matter, mingled with particles of rocks broken up by rain, frost, and other atmospheric influences. Soils are of three principal kinds, according to the prevailing rock in their composi-

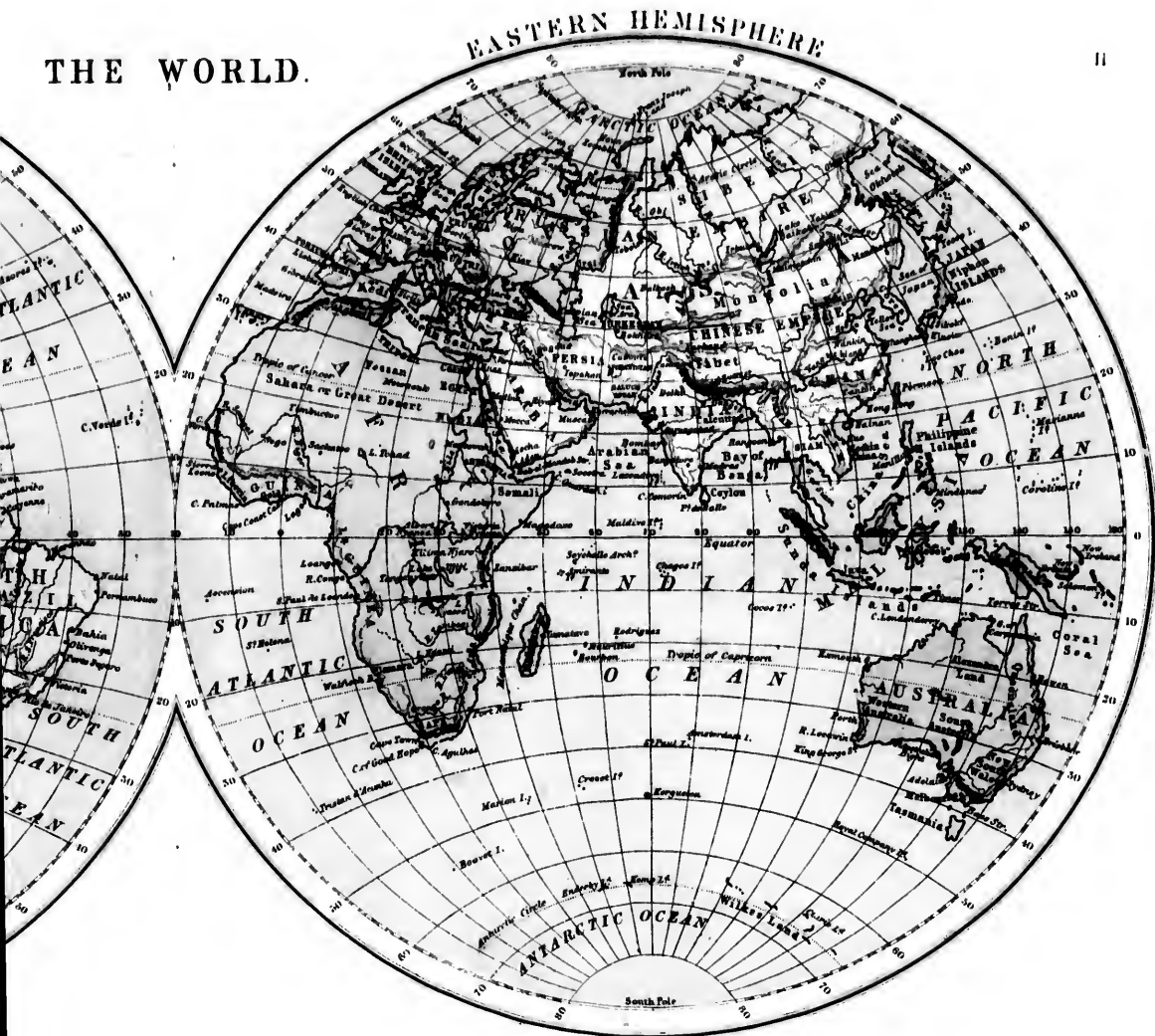


number of elements, or
as determined, is about
in their simple state, but
combined, thus forming the
vegetable, and animal is

er of vegetable or animal
range that the beautiful
could be identical in sub-
the fact.

from decayed vegetable
is of rocks broken up by
ances. Soils are of three
ing rock in their composi-

THE WORLD.



tion
or
5
rail
in
first
6

sett
sure
form
and
imb

In
out.
unst.
of fi
fossil

7.
horiz
with
igne
North
amp

THE
respe
fact
state
mine

In
burn
In o
from
into
incre
feet
miles

T
mile
first
surfa
three
four
are
the
divic
of w

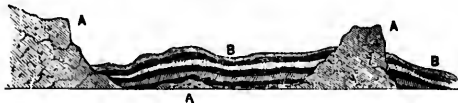
EX
merit
the
hem

tion,—*Silicious*, or sandy; *Calcareous*, or limy; and *Argillaceous*, or clayey.

5. Rocks belong to two great classes. If we examine a deep railway cutting or a cliff, we shall find the rock either arranged in layers or strata one above another, or in irregular masses. The first kind is called *Stratified*, the second *Unstratified*.

6. When loose earth is carried by streams into lakes or seas, it

Fig. 11.



A A UNSTRATIFIED ROCKS. B B STRATIFIED ROCKS.

settles to the bottom in horizontal layers or strata, and, by pressure, becomes solid rock. The stratified rocks have evidently been formed in a similar manner, hence they are also called *Aqueous* and *Sedimentary*. Remains of animals and plants are often found imbedded in these rocks.

In volcanoes vast masses of melted matter called *lava* are poured out. When the lava cools, it assumes the unstratified form. Hence unstratified rocks are supposed to have been formed by the agency of fire, and are sometimes called *Igneous* rocks. They contain no fossils.

7. Aqueous rocks usually occupy the surface, sometimes in horizontal layers, but more frequently tilted up at various angles with the horizon. Sometimes, particularly in mountain ranges, igneous rocks are found thrust up through the aqueous rocks. The North Mountain in Nova Scotia, formed of *trap rock*, is an example.

The Interior.—8. We cannot judge with absolute certainty respecting the condition of the interior of the Earth. Various facts tend to establish the opinion that it is in a highly heated state, but whether liquid or solid is not yet conclusively determined.

In many places on the Earth's surface there are volcanoes, or *burning mountains*, which send out flame, smoke, and melted lava. In other places there are hot springs, as the *geysers* of Iceland, from which issue boiling water and steam. It is found on digging into the earth that, after the first 80 or 90 feet, the temperature increases regularly by one degree, Fahrenheit, for about every 60 feet of descent. At this rate, the heat at the depth of 40 or 50 miles would be sufficient to melt the hardest substances.

The Terraqueous Globe.—9. If we could rise a few miles above the Earth and look down upon it, one of the first aspects to catch the eye would be the land and water surface. A glance at the hemispheres will show that about three-fourths of the surface are covered with water, and one-fourth with land; also, that about three-fourths of the land are to the north of the Equator. Further, by reference to the globe, it will be seen that the Earth's surface may be so divided that nearly all the land will be in one hemisphere, of which London will be nearly the centre.

EXERCISE ON THE GLOBE.—Bring London to the brazen meridian, and place the north pole at an elevation equal to the latitude. Most of the land will now be found in the upper hemisphere.

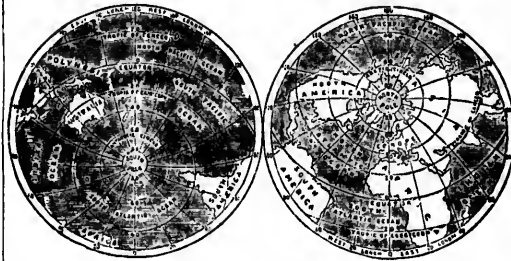


Fig. 12.

LAND AND WATER HEMISPHERES.

10. The boundary line between the land and the water—that is, the *shore-line*, or *coast-line*—is very irregular, the land jutting out into the sea, and the sea running up far into the land.

A point of land running out into the sea is called a *cape*, and a portion of land nearly surrounded by water is called a *peninsula*.

The coast-line is dependent on the height of the land compared with the sea-level,—elevations above that level causing a land surface, and depressions a water surface. The coast-line in many places is undergoing changes, according to the qualities of the land,—the softer parts wearing away by the ever-active and intruding sea, the more durable parts standing out in sharp points.

11. This commingling of the ocean with the land is one of the most important points to be noted in the physical features of a country. The sea has a more equal temperature than the land, and thus modifies the extremes of heat and cold in those countries which it penetrates. But the principal benefit arising from the breaking up of the land by inlets of the sea is the ease thus afforded for intercommunication between different countries. Isolation is always a barrier to prosperity and civilization, and in no way is intercourse so easy and perfect as by water.

THE LAND.

Divisions.—12. The land, comprising about one-fourth the Earth's surface, has an area of about 51,500,000 square miles, or it equals a square of 7176 miles. It is distributed in many detached portions, separated by water. The principal part of the land area, however, is included in three great divisions called *Continents*. The smaller divisions, which are very numerous, are called *Islands*.

The Continents.—13. The three continents are: I. The *Western Continent*; II. The *Eastern Continent*; III. The *Australian Continent*.

14. The *Western Continent*, called *America*, is the second in size, and has an area of 15,500,000 square miles, or it equals a square of 3937 miles. It has its greatest

length north and south, extending from Point Barrow, 72° north, to Cape Fröward, 54° south latitude, a distance of about 8500 miles.

This continent comprises two grand divisions,—*North America* and *South America*, which are connected by a narrow neck of land called the *Isthmus of Panama*.

America approaches to within 50 miles of the Eastern Continent at Behring Strait, on the north-west.

15. The **Eastern Continent**, the largest of the land divisions, has an area of about 32,800,000 square miles, being equal to a square of 5727 miles. Its greatest length is east and west, from Cape Verd on the west of Africa to East Cape on the north-east of Asia.

16. The Eastern Continent comprises three grand divisions,—*Europe*, *Asia*, and *Africa*. Europe and Asia form in reality but one great mass of land; Africa is separated from the rest of the continent by the Mediterranean Sea and the Red Sea. The *Isthmus of Suez*, 72 miles in width, joins Africa to Asia.

17. The **Australian Continent** forms but one grand division,—*Australia*. It is the smallest of the continents, and is sometimes grouped with the islands. It is very regular in form, has an extreme length of 2600 miles east and west, and comprises an area of about 3,000,000 square miles.

18. The greater part of the land surface is thus comprised in six great divisions,—*North America*, *South America*, *Europe*, *Asia*, *Africa*, and *Australia*. Each of these is sometimes called a continent,—as the *Continent of Europe*, the *Continent of Asia*, &c.

A body of land, called the *Antarctic Continent*, has been discovered towards the South Pole.

19. By reference to the map, several interesting features may be noted respecting the continents:—

(1.) They spread out in broad masses towards the north, approaching near to each other and terminating abruptly near the parallel of 70°; whilst in the south they taper to points at Cape Horn and the Cape of Good Hope, which are far apart.

(2.) The irregularities of the east coast of America conform generally to those of the west coast of the Eastern Continent, the projections of the one corresponding somewhat to the indentations of the other.

(3.) Both continents have their greatest extent east and west near the parallel of 50° north latitude, and their greatest extent north and south nearly corresponds with meridians.

(4.) The peninsulas, with the exception of Yucatan in America, Jutland in Europe, and two or three others, project towards the south.

(5.) South America, Africa, and Australia, on the south, have much greater regularity of coast-line than North America, Europe, and Asia, on the north.

(6.) Europe and Asia both terminate in three peninsulas on the south,—Spain, Italy, and Greece, in the one; Arabia, Hindostan, and Further India, in the other.

Islands.—20. Islands differ from continents in being of smaller size. They usually occur in groups, as the *West Indies*, the *British Isles*, and the *Sandwich Islands*.

21. Islands lying near the continents, as the *West Indies*, the *British Isles*, the *Japan Islands*, are called Continental Islands. They are considered as detached portions of the mainland. Islands situated in mid-ocean, far from any continent, as *St. Helena*, *New Zealand*, and the *Sandwich Islands*, are called Oceanic Islands.

22. Many islands, particularly in the tropical parts of the Pacific Ocean, owe their origin to coral insects, or zoophytes. These little creatures secrete lime and other substances from the water, which they form into solid matter, layer above layer, until the whole becomes like a mass of rock. Coral animalcules cannot live in cold or deep water, nor on dry land. They are therefore found only in tropical seas. They commence operations at the depth of about one hundred feet, and cease on reaching the surface of the water. Coral islands are elevated by debris washed up by the waves, and frequently also by volcanic action.

23. Many islands are of volcanic origin. They are usually elevated, and some of them still contain active volcanoes. New islands of this kind are occasionally thrown up in the midst of the sea. One appeared in 1783 off the coast of Iceland; and one in 1831 off the coast of Sicily. Both these islands subsequently disappeared.

24. The islands of the Pacific Ocean often present a highly picturesque appearance. Some of them, as *Whitsunday*, consist of a lowland ring of coralline formation, with a lagoon in the centre. Such an island is called an atoll. The *Caroline Archipelago* consists of groups of atolls.

25. Other islands have coral reefs along their shores. Sometimes the reef lies off from the shore, separating the ocean from a narrow channel inside. A barrier reef stretches over a thousand miles along the north-east of Australia. Tahiti, the principal island in the Society Group, is encircled by a reef enclosing a lagoon, from half a mile to three miles in breadth.

26. The following are the ten largest islands in the world:—*Greenland*, *Papua*, *Borneo*, *Madagascar*, *Sumatra*, *Great Britain*, *Hondo*, *Luzon*, *Java*, *Yesso*.

Elevation.—27. If the Earth were evenly curved, without hills and hollows, the sea, having no barriers, would spread over the whole surface. The bed of the ocean is an immense basin, within which the water is confined by the elevation of the shore-line. Sometimes the ascent from the water's edge is gentle; in other places it is precipitous, forming a rocky wall, varying from a few feet to several hundred feet in height. The most elevated land is usually in the interior.

28. The elevation of the land is determined by comparing it with the sea-level. Although the land is generally higher than the level of the sea, there are districts in which it is otherwise. The most remarkable depressions are in Western Asia, near the Caspian and Dead Seas. The valley of the Jordan is the lowest land known, being, near the mouth of

the river, about 1300 feet below the sea-level. Asia also contains the most elevated land. Mount Everest, a peak of the Himalayas, 29,002 feet above the sea, is the highest point yet discovered on the Earth's surface.

29. Lands not exceeding a thousand feet in height are called lowlands; those of greater elevation are highlands. Highlands are either mountains or plateaus.

30. The most extensive lowland plains in the Western Continent are in the middle of North America, extending from the Arctic Ocean to the Gulf of Mexico; and on the east side of South America. The most extensive in the Eastern Continent are in the north of Europe and Asia.

31. **Mountains** are elevations which rise abruptly from the surrounding country, sometimes in isolated peaks, but more commonly in extended ridges. A mountain system is generally composed of a number of parallel ranges, separated by valleys or plateaus. Mountains less than a thousand feet in height are usually called *hills*.

32. The most important mountain systems are, the *Rocky Mountains*, in North America; the *Andes*, in South America; the *Alps*, in Europe; and the *Himalayas*, in Asia.

33. The mountain range, with few exceptions, run in the direction of the greatest length of the land. They are also frequently on one side of the country, presenting a long and gentle slope towards the more distant ocean and an abrupt descent to the other. Observe the Andes of South America.

34. Mountain ranges generally form the parting-ground or *water-shed* between streams flowing in opposite directions. The Rocky Mountains and the Andes are water-sheds.

Some important water-sheds are quite low ridges or mere swells in the surface: for example, the Mississippi and the Volga take their rise in water-sheds of but slight elevation. Streams often make their way through mountain ranges by deep gorges.

35. Mountains and hills are of great importance in promoting the drainage of a country, and in supplying it with perennial streams. The rain which falls upon their summits re-appears in springs along their sides, and instead of standing in pools and marshes, exhaling poisonous miasma, it flows down the slopes in brooks and rivers.

36. A **plateau** or **table-land** is an elevated plain, not generally level, but, like lowland plains, varied with hills and valleys. The highest table-land is the *Plateau of Thibet*, north of the Himalaya Mountains, which has an elevation of 15,000 feet.

37. The principal plateaus are, the *Colorado Plateau* and the *Great Basin*, on the west of the Rocky Mountains; the *Plateau of Bolivia*, in the Andes; the *Sahara*, in Africa; the *Arabian Plateau*, *Thibet*, and the *Gobi*, in Central Asia. Some of these table-lands, as the Sahara, are rainless deserts.

38. On mountains and table-lands the cold rapidly increases with the elevation.

It is a singular illustration of the adaptation of the Earth to its inhabitants, that highlands occur most frequently where the sun's rays are most vertical. If the northern parts of the continents were table-lands, they would be uninhabitable through intense cold.

39. Mountains were probably formed by upheavals caused by the contraction of the Earth through the loss of its internal heat. The same cause is still at work, gradually producing similar results.

In 1822, a portion of the coast of Chili was elevated three feet. A portion of Sweden, along the Baltic, is being gradually elevated at the rate of a foot in twenty-five years.

In various parts of the Earth the subterranean fires have broken through the crust in volcanoes, where vast quantities of lava are poured out. About a century ago, the volcano of Jorullo burst forth from a plateau of Mexico, and in a single night raised a mountain over 4000 feet high.

Volcanoes are usually near the sea, either on islands or on maritime parts of the continents. Some of the most noted volcanoes are, *Cotopaxi*, in South America; *Etna*, in Sicily; and *Hecla*, in Iceland.

40. Earthquakes are movements of the ground, varying in degree from slight tremors to the most violent concussions. They are most common in volcanic regions, and are supposed to be occasioned by the same causes as volcanoes. Sometimes the ground rises and falls, like the waves of the sea; and sometimes it has a circular motion, like that caused by throwing a stone into still water.

In the great earthquake of 1755, which lasted about six minutes, almost every building in Lisbon was laid in ruins, and 60,000 persons lost their lives. Caraccas was destroyed in 1812, and 10,000 persons were killed in less than a minute.

Rivers.—41. A large portion of the rain and melted snow sinks into the ground, until, being arrested in its course by rocks or by clay, it makes its way to the surface again in the form of springs. The little rills which flow from springs unite and form brooks; and these again in their onward course come together and form rivers.

42. Some rivers have their origin in lakes, others are formed by the melting of ice and snow on high mountains.

43. A **water-shed** is a height of land from which streams flow in opposite directions.

44. If the water-shed is far inland, the river usually receives many tributaries before it reaches the sea, thus becoming a very large river. A great river and its tributaries is called a *river system*. The St. Lawrence and its tributaries constitute the *St. Lawrence system*; the Mississippi and its tributaries, the *Mississippi system*. Sometimes the term "river system" is applied to the rivers flowing into any particular ocean, as the *Atlantic system*.

45. The **course** of a river depends on the slope of the land. Besides the principal slope towards the sea, giving direction to the main stream, subordinate slopes on each side strike inwards towards the main stream, controlling the course of the tributaries. Hence the territory drained by a river and its tributaries appears as if scooped out, and is called the *river basin*.

46. On the water-shed which parts the waters of the Mississippi

from those of the St. Lawrence there are said to be several instances of buildings so situated that the rain which falls on one side of the roof runs into one basin, and that which falls on the opposite side into the other basin.

47. The **length** of a river depends on the distance of the watershed from the sea, and on the windings of the river.

48. The **volume** or size of a river is regulated by the extent of its basin and the humidity of the country within the limits of the basin. The volume varies greatly at different seasons of the year. The Mississippi is vastly increased in volume by the rain and the melting of the snow in spring. The Nile is most remarkable for the annual overflow of its banks.

49. The **velocity** of a river depends on the slope along which it flows, on the depth of water, and its windings. A very deep stream will flow rapidly, impelled by its own pressure, even where there is little descent. The Amazon is said to have a fall of only 12 feet in the last 700 miles of its course, and the Volga to have a fall of only 633 feet through its whole length.

Frequent windings retard the velocity. The upper course of a river is usually the most rapid.

50. A **cataract** or **waterfall** is caused by a river flowing over a precipice. **Rapids** are caused by a steep incline in the bed of a river.

Niagara Falls, where a river three-fourths of a mile wide falls 160 feet, are the most remarkable in the world. The St. Lawrence is noted for numerous rapids in its upper course.

51. The great rivers of the world are :—

The *Mississippi*, the *St. Lawrence*, the *Mackenzie*, the *Yukon*, and the *Saskatchewan*, in North America; the *Amazon*, the *La Plata*, and the *Orinoco*, in South America; the *Volga* and the *Danube*, in Europe; the *Yang-tse Kiang*, the *Hoang Ho*, the *Obi*, the *Yenisei*, the *Lena*, the *Amoor*, the *Mekong*, the *Irrawady*, the *Brakmaputra*, the *Ganges*, the *Indus*, and the *Euphrates* and *Tigris*, in Asia; the *Nile*, the *Niger*, the *Congo*, and the *Zambesi*, in Africa; and the *Murray*, in Australia.

52. Brooks and rivers are busy agents in changing the face of nature,—ever tearing down and building up. The torrent rushes down the mountain side, wearing deep ravines; the sluggish stream of the plain leaves the debris along its banks, or bears it onward to form *deltas* at its mouth.

53. Some of the rivers on the Pacific slope of North America are noted for the deep chasms or *canyons* which they have formed in the solid rock. The canyon of the Colorado is 300 miles in length, and its walls are from 3000 to 6000 feet high.

54. Brooks and rivers are of great use to man. They supply him with pure water; they fertilize his fields, furnish a motive-power for machinery, and form a highway for the traveller and the merchant. The most fruitful soil is found along the margins of rivers; here are situated the chief inland towns, and here are the most busy scenes of human industry.

Lakes.—55. Lakes are bodies of water collected in basin-like hollows. They are divided into two classes,—those that have an outlet, and those that have no outlet.

56. Lakes of the first class are the most numerous. They belong to a river system, usually receiving several streams and sending out but one.

57. The northern part of North America is remarkable for its lake systems. The great lakes, *Superior*, *Michigan*, *Huron*, *Erie*, and *Ontario*, are estimated to contain half the fresh water on the globe. The basins of the Saskatchewan and the Mackenzie also contain large lakes.

58. Central Africa ranks next to North America in the size of its lakes. The most important are, *Albert Nyanza*, *Victoria Nyanza*, *Tanganyika*, and *Nyassa*.

59. Asia has but one large fresh-water lake, *Baikal*, in the basin of the Yenesei. The lakes of Europe are small,—*Ladoga* is the largest,

60. The lakes which have no outlet discharge their surplus waters by evaporation. They thus retain all the saline substances brought in by the rivers which flow into them, and their waters are generally very salt.

61. Lakes of this class are very numerous in Central Asia. The *Caspian Sea*, the *Sea of Aral*, and the *Dead Sea* are the most noted. There are many salt lakes on the table-lands west of the Rocky Mountains. *Great Salt Lake* is the largest. *Lake Chad*, in Central Africa, is a fresh-water lake of this class.

62. The *Dead Sea*, 1312 feet below the sea-level, is the lowest lake known; *Siri-kol*, in Central Asia, 15,600 feet above the sea, is the most elevated. *Titicaca*, in South America, has an elevation of 12,488 feet.

REVIEW QUESTIONS.

The learner may obtain aid from the *Glossary* at the end of the book.

What is meant by the Earth's crust, and of what is it composed? Name the two great classes of rocks, and give their origin and character. What is the probable condition of the interior of the Earth? What are the evidences of this condition?

What regulates the distribution of land and water? What proportion of the Earth's surface is land, and how is the land distributed? Under what conditions would the water cover the whole globe? What is a continent, and how does a continent differ from an island? How many great continents are there, and what great divisions are embraced in the first and second? Name the leading features of the continents. What is a cape? What is a peninsula, and in what direction do the peninsulas generally extend? How does the coast-line of the southern portions of land differ from that of the northern?

Name the peninsulas in the south of Europe and Asia. How are North America and South America connected? At what place do the Eastern and the Western Continent approach nearest each other, and what is the distance? What water separates Africa from Europe? What from Asia? How is Africa joined to Asia?

Name the two great classes of islands, and give examples of each. How are coral islands formed? What is an atoll? What is a barrier reef? Where is the most noted barrier reef? Name the ten largest islands, and find how each compares in size with your own province.

How is the elevation of the land estimated? What is the highest land known, and what the lowest? Where are the most important lowlands? What is a mountain? How does it differ from a hill? Name the most important mountain systems. What is a water-shed, and how does it differ from a mountain? What is a plateau, and where are the most important plateaus? How does the distribution of highlands and lowlands adapt the

Earth to the condition of its inhabitants? What is an earthquake? A volcano?

What is a river? A river system? A river basin? Give examples. Describe the origin of rivers. What is a cataract? How are rapids caused? Name the great rivers of the globe. What is a canyon, and where is the most noted canyon?

Name the two classes of lakes, and give the most important of each class. Why are those of the second class generally salt? Name the highest lake and the lowest, and give the elevation.

THE SEA.

Extent.—63. The sea or ocean is that vast, continuous body of salt water which covers about three-fourths of the Earth's surface. Its area is computed to be 145,500,000 square miles, equal to a square of over 12,000 miles.

Depth.—64. The bed of the sea has all the irregularities of surface which we see on the land. Hence the depth varies greatly in different parts. It is supposed that the greatest depth is not less than five or six miles. The deepest sounding yet made is 27,930 feet, off the Kurile Islands, in the North Pacific Ocean.

65. The North Atlantic, between Newfoundland and Ireland, has been explored by careful soundings. The greatest depth found is 12,700 feet, which is much less than the general depth of the ocean. The bed here is sometimes called the "Telegraph Plateau."

The pressure on the lower waters of the sea is very great. If a corked bottle be let down empty, the cork will be forced in.

Contents.—66. Sea water contains several mineral substances, as common salt, lime, and salts of magnesium and potassium, and iodine.

Some of these substances are extracted from the water, in large quantities, by marine animals, in the formation of shells and coral. New supplies are contributed by the rivers, so that the composition of sea water remains unchanged.

Temperature.—67. The sea maintains a more uniform temperature than the land.

The waters of the ocean are ever changing place—flowing back and forth between the polar and equatorial regions, so that the same water is not exposed for a long time to intense heat or cold. Also, in warm regions evaporation is very copious, by which the accumulation of heat is prevented; and in cold regions water parts with its heat less readily than land.

Divisions.—68. Although the ocean forms one great connected body, it is usual to consider it as separated into five principal divisions:—

The *Atlantic, Pacific, Indian, Arctic, and Antarctic Oceans.*

69. Branches of these oceans, extending into the land, take various names, as *seas, bays, gulfs, channels, and straits.*

The terms *sea, bay, and gulf* are sometimes applied to bodies of water which do not essentially differ from one another. Thus the *Caribbean Sea, the Gulf of Mexico, and Hudson Bay* are similar waters. The terms *strait and channel* are also used to designate connecting waters of the same kind, although a channel is usually longer and broader than a strait. Compare the *English Channel* and the *Strait of Dover.*

(For definitions, see *Glossary.*)

70. The **Atlantic Ocean** lies on the east of America, which it separates from Europe and Africa. The Polar Circles are its northern and southern limits, and the Equator divides it into *North and South Atlantic.*

The principal branches of the Atlantic are, on the American side, *Davis Strait, Baffin Bay, Hudson Bay and Strait, the Gulf of St. Lawrence, Bay of Fundy, Gulf of Mexico, and the Caribbean Sea*; on the eastern side, the *North Sea, Baltic Sea, English Channel, Bay of Biscay, Mediterranean Sea, and the Gulf of Guinea.*

71. The Atlantic varies in breadth from 300 to 4000 miles. It is of great importance in a commercial point of view, forming the great highway between America and Europe. A submarine plateau in the North Atlantic forms the bed of the telegraph cables between Newfoundland and Ireland.

72. The **Pacific Ocean** is on the west of America, separating it from Asia and Australia; and it extends from Behring Strait, on the north, to the Antarctic Circle. It is divided into *North and South Pacific* by the Equator.

The chief branches of the Pacific are, the *Gulf of California, on the American side; Behring Sea, Sea of Okhotsk, Sea of Japan, Yellow Sea, and China Sea, on the coast of Asia.*

Behring Strait, connecting the Pacific with the Arctic Ocean, is about fifty miles wide.

73. The extreme breadth of the Pacific is about 10,000 miles, or nearly half the circumference of the Earth. It is noted for the number of its islands. This great ocean was unknown to Europeans until 1513, when it was discovered by a Spaniard named Balboa, who crossed the Isthmus of Panama. The part of the ocean seen from the mountains of the isthmus lay on the south, from which the Pacific received the name of the South Sea.

Magellan, who crossed this ocean in 1521, called it the Pacific, because he encountered no storms on his voyage.

74. The **Indian Ocean** lies south of Asia, having Africa on the west, and Australia on the east. The Antarctic Circle is the southern limit.

Its branches are, *Mozambique Channel, Red Sea, Arabian Sea, Persian Gulf, and the Bay of Bengal.*

75. The **Arctic or Northern Ocean** is on the north of America, Europe, and Asia, within the Arctic Circle. Its principal branches in the Eastern Hemisphere are, the *White Sea, Sea of Kara, and the Gulf of Obi.* It is much broken by islands on the north of America.



WHALE FISHING.

Throughout a long winter this ocean is covered with ice of considerable thickness, which breaks up in the spring. *Icebergs* are masses of frozen fresh water, detached from glaciers falling into the sea, and drifting towards the Equator with the ocean currents.

76. A navigable route from the Atlantic to the Pacific, through the Arctic Ocean, was long sought with great ardor. The most memorable and disastrous expedition for the discovery of *The North-West Passage*, as the route on the north of America was called, was that commanded by Sir John Franklin, who sailed from England in 1845 with two ships and 138 men. None of the party ever returned.

77. Whilst engaged in the search for Franklin, Captain M'Clure, entering by Behring Strait, made the whole passage on the north of America to the Atlantic; but he was compelled to leave his vessel frozen fast, and to go part of the way over the ice.

Navigators have often made unsuccessful attempts to reach the North Pole. The nearest point yet reached is $83^{\circ} 20'$, north of Cape Columbia.

78. The **Antarctic Ocean** is situated within the Antarctic Circle. The cold is even more severe than in the Arctic, and the ice extends further from the pole.

The highest latitude reached in this direction is $78^{\circ} 4'$, by Sir James Ross.

In 1841, Sir James Ross discovered an extensive tract of land in the Antarctic Ocean, to which he gave the name of Victoria Land. He also discovered a lofty volcano, 12,400 feet in height, which he called Mount Erebus.

The Arctic and Antarctic Oceans are the favourite resort of whales, in the capture of which many vessels are engaged.

Motions of the Sea.—79. The waters of the ocean have three kinds of movements—*waves, tides, and currents*—arising from distinct causes. By the unceasing agitation of its waters the ocean is preserved from putrefaction.

Waves.—80. Waves are agitations of the surface water, usually occasioned by the wind. Except in shallow water, and when the wind is very strong, there is no onward flow of water, but each wave communicates its motion to the next. The motion is like that of standing grain moved by the wind. Waves are sometimes caused by earthquakes.

81. The motion of the water in waves is circular, and is greatest at the surface. The depth at which the water is disturbed depends on the breadth of the wave. The disturbance caused by the most violent winds is computed to reach a depth of about 600 feet, but at this depth the motion is very slight.

82. The highest waves are found in the Atlantic, off the Cape of Good Hope, where, from the hollow or *trough* of the sea to the *crest* of the wave, the height is sometimes forty feet.

The rise of waves is obstructed by ice-cakes or by sea-weed floating on the water, and by dense fogs. Throwing oil upon the surface will also prevent the rise of waves.

83. **Breakers** occur near the shore and in shallow waters. They are caused by obstructions at the base of the wave, whilst the surface water moves on.

Tides.—84. The ocean is ever changing its level. The

waters rise for about six hours, and then fall for the same time. This alternate rising and falling of the ocean is called *the tide*. When the water is rising, we call it *flood tide*; when it is falling, *ebb tide*. The water remains at rest for a few minutes at *high water* and at *low water*.

85. In the open ocean the height of the tide—that is, the difference of level between low water and high water—is from one to three feet; but when the water is forced up narrow bays, the tide is much higher. In the Bristol Channel the height is from forty to fifty feet, and in the head waters of the Bay of Fundy sixty or seventy feet.

86. The tides are caused principally by the attraction of the moon. They are also considerably modified by the attraction of the sun. This body being more remote, is thought to exert only about one-third the influence of the moon.

87. Water having but little cohesion among its particles is easily displaced by any force acting upon it; and as the attraction is strongest directly beneath the moon, or where the moon is vertical, the water is drawn to that meridian from either side to the distance of 90° . The whole body of the solid earth is also drawn towards the moon, whilst the waters on the opposite side remain behind, forming another convex ridge.* Thus there are two meridians 180° apart, at which it is high water simultaneously, and other two intermediate, and the same distance from each other, at which it is low water. This is shown in the diagram. It is high water at *e* and *b*, low water at *c* and *d*.

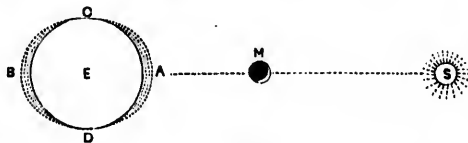


Fig. 13.
SPRING TIDES.

Now, as the Earth turns upon its axis from west to east, the two convex ridges of water, represented at *a* and *b*, move round the Earth as immense tidal waves from east to west, bringing high water to all places twice every day. As with waves, the tidal motion is not an onward flow, except near the shore and in shallow waters.

88. If the moon were stationary, the time between one high water and another would be exactly twelve hours; but in consequence of the moon's progress in its orbit, it is a little later each day in coming to any particular meridian; hence the time between two consecutive tides is about twelve and a half hours.

The greatest elevation of the tide is a little after the moon has passed the meridian.

89. Sometimes the sun's influence is combined with the moon's, when the two bodies are said to be in *conjunction*. This occurs at new moon, when the sun and moon are on the same side of the Earth, as shown in figure 13; it also occurs at full moon, when they are on opposite sides of the Earth. At such times the tides are very high, and are called *spring tides*.

At the moon's quarters the sun and moon act at right angles, as shown in figure 14. They are then said to be in *opposition*, as the sun partially counteracts the moon's influence. It is high water at *a* and *b*, but the tides are low, and are called *neap tides*.

* The above is the common explanation of the opposite tide, but it is open to objections.

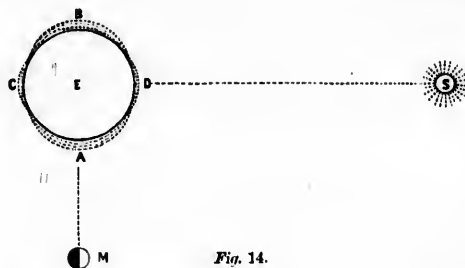


Fig. 14.
NEAP TIDES.

90. The foregoing theory of the tides is on the supposition that the Earth's surface is wholly covered with water. It requires considerable modification, in consequence of the interference of the land.

It will be seen, by reference to the map of Nova Scotia, that Halifax Harbor and the mouth of the Shubenacadie are nearly on the same meridian. It might be supposed that they would have high water at the same time. But it must be remembered that the tidal wave passes around the Earth from east to west. The Bay of Fundy opens to the ocean on the west, and the wave cannot flow in until it has passed the extreme west of the province. Its motion up the Bay is then from west to east.

As the Bay becomes narrow near its head, the water is crowded; the tide rises higher, and flows more rapidly.

In inland seas, like the Caspian, Black Sea, and Baltic, there are no tides. Owing to their comparatively small area, all parts are attracted equally, or nearly so.

Currents.—91. Broad currents, like vast rivers, are ever flowing through the sea. An exchange of waters is thus kept up between the Equator and the poles, and among the different oceans.

92. Navigators are in the habit of throwing bottles into the sea, containing slips of paper stating where they were cast out and when. The bottles course along with the current. Every navigator who falls in with them notes the place and time on the paper, and sends them on their voyage.

Vast bodies of ice called icebergs are brought into the Atlantic Ocean by currents from the Arctic Ocean.

The products of the West Indies are often cast upon the shores of the Azores and Ireland; the products of China are carried to the Aleutian Isles; and drift-wood is carried from Northern Europe to Iceland.

93. It will thus be seen that a current is an onward flow of the waters of the ocean. Currents are of three kinds—*temporary*, *periodical*, and *permanent*. The latter are the most important, and are the currents here described.

94. Viewed in a general way, the leading permanent currents are the following:—

Those currents which flow from the Polar Regions towards the Equator, called *Polar Currents*; and those which move from east to west near the Equator, called *Equatorial Currents*.

These currents, however, are not really distinct, but are connected and merge into one another. They are also

variously divided and deflected from their course in the different oceans.

By tracing the currents on the map, it will be seen that the waters of the ocean move in great circles or ellipses. It is to be observed that there are often *under currents* flowing in the opposite direction from the surface current.

95. The following are the principal currents:—

(1) The **Arctic Currents**, flowing southerly from the Arctic Ocean,—one through Davis Strait and along the coasts of Labrador and Newfoundland, and thence southerly as an under current; and another through Behring Strait, along the east coast of Asia.

(2) The **Antarctic Currents**, flowing northerly from the Antarctic Ocean. One enters the Pacific Ocean, and flows northerly along the west coast of South America, known as *Humboldt's Current*; a second enters the Indian Ocean on the east of Australia; and a third enters the Atlantic, and flows along the west coast of Africa.

(3) The **Equatorial Current of the Atlantic**, flowing westerly from Africa to America.

(4) The **Gulf Stream**, flowing north-easterly from the Gulf of Mexico to the western shores of Northern Europe.

(5) The **Equatorial Current of the Pacific**, flowing westerly from the west coast of America to Australia, Africa, and Asia.

(6) The **Mozambique Current**, flowing southerly between the Island of Madagascar and the east of Africa.

(7) The **Japan Current**, flowing north-easterly past the Japan Isles, crossing the Pacific, and striking the western shores of North America.

96. The **Equatorial Current of the Atlantic** may be considered as a continuation of the Antarctic Current, which turns westerly near the Gulf of Guinea. Near Cape St. Roque, on the east of South America, it divides. One branch flows southerly and easterly, finally merging into the Antarctic Current. The other branch flows northerly, entering the Caribbean Sea and the Gulf of Mexico.

97. The **Gulf Stream**, which is properly a continuation of the northern branch of the Equatorial Current of the Atlantic, is the most remarkable and important of all the currents. An immense volume of water, eight or ten degrees warmer than the surrounding ocean, passes through Florida Strait with a velocity of four miles an hour. As it proceeds northerly it becomes broader, but diminishes in velocity and temperature. Near Newfoundland it turns to the east, and, whilst crossing the Atlantic, it divides into two branches—one passing northerly to the British Islands, the other southerly along the coast of Northern Africa, and mingling again with the Equatorial Current.

98. The triangular space between the Azores, Canaries, and Cape Verd Islands, forms the centre of a great whirl of waters. It is called the *Sargasso Sea*, and is covered with matted sea-weed, which greatly obstructs navigation.

99. The **Equatorial Current of the Pacific Ocean** originates in *Humboldt's Current*. Like the corresponding current of the At-

lantic, it divides into two branches. One division proceeds to Australia, crosses the Indian Ocean, and gives rise to the *Mozambique Current*; the other division takes a more northerly course to the Philippine Isles, turns to the north-east, and becomes the *Japan Current*.

100. A current flows from the Atlantic into the Mediterranean; another from the Indian Ocean into the Red Sea. There are many other currents, some constant, others variable, in different parts of the ocean. Also, it has been shown that where surface currents flow in one direction, counter currents flow in the opposite direction. Thus an under current flows from the Mediterranean to the Atlantic.

101. The **effects** of ocean currents are very important. They speed the navigator in his distant voyages; and they exercise a marked influence on climate.

The Gulf Stream warms the coasts of Northern Europe, and the Japan Current has a similar effect on the western shores of North America. Humboldt's Current bathes the hot shores of Chili with the cold waters of the Antarctic Ocean. The Polar Current from the Arctic is less genial on the eastern coast of British America; retarding, with its chilly north-east winds, the advance of spring.

102. All the **causes** on which ocean currents depend are not well known. It is probable that the three principal causes are the Earth's rotation on its axis, the great heat of the Torrid Zone, and the direction of the prevailing winds.

The rotation of the Earth gives rise to the centrifugal force, in obedience to which the waters rush to that part which is furthest from the centre of motion—that is, the Equator. This tendency of the waters towards the Equator is increased by the excessive evaporation within the tropics. We thus have currents flowing from the Arctic and Antarctic Oceans, particularly from the latter, which has the most complete communication with the other oceans.

103. The water from high latitudes cannot at once acquire the more rapid rotatory motion from west to east which it finds on approaching the Equator. It accordingly becomes more and more westerly in its tendency, and finally flows towards the west in the Equatorial Currents.

104. The interference of the land furnishes a modifying influence, by which the direction of a current is often changed. Thus the Equatorial currents, striking against the east side of the continents, are arrested and changed in their course. Being now turned towards the poles, they have a more rapid rotatory motion than the parts of the Earth to which they are flowing, and consequently assume more and more an easterly course, as we see in the Gulf Stream and the Japan Current.

Long-continued high winds sometimes exercise an influence on currents.

REVIEW QUESTIONS.

(See Glossary.)

Name the five great oceans, and give their position. Define the following, and give examples:—

A sea, a bay, a gulf, a channel, a strait, a harbor, a roadstead, a sound, an archipelago, an estuary, a firth, a mediterranean sea.

Give the principal minor waters of each ocean. State what you know of the history of the Pacific Ocean. What do you know of the explorations in the Arctic Ocean? What advantages arise from the intermingling of sea and land?

Name and describe the three great motions of the ocean, and give the cause of each. What advantages arise from these motions of the waters? In what way is the interchange of the waters of the sea and land maintained? When do waves and tides cause an onward flow of water?

How often does high water occur in any particular part of the ocean? How do you explain the origin of the tide on the side of the Earth opposite the attracting body? What is the difference between high water and high tide? At what phases of the moon are high tides and low tides? How often have we high tides? Give the relative position of the Earth, the Sun, and the Moon at each change of tide.

Give proofs of the onward flow of water in ocean currents. Describe the currents in the different oceans. How does the water return to the Polar Seas?

THE ATMOSPHERE.

Extent.—105. The atmosphere, or air which we breathe, surrounds the Earth on all sides to the height of probably about a hundred miles. It moves with the Earth in its rotation on its axis and in its revolution round the sun.

Composition.—106. The atmosphere consists principally of a mixture of two gases, *nitrogen* and *oxygen*, in the proportion of 79 of nitrogen and 21 of oxygen in every 100 parts. It also contains a small fraction of carbonic acid gas, and a variable quantity of watery vapor.

Properties.—107. Air has so little cohesion among its particles that it is easily displaced, and we move about in it without feeling the slightest obstruction.

Except when laden with condensed vapor, the atmosphere is perfectly transparent, so that objects are seen through it with the greatest clearness. It is not, however, quite colorless; for when we look through a large volume of it, as upwards into the sky, or at a distant mountain, it appears of a blue tint.

Air is exceedingly *elastic*. If we nearly exhaust it from a closed vessel, the little that remains will expand and fill the whole space.

108. The air has *weight*. A hundred cubic inches of dry air, at sixty degrees Fahrenheit, weigh about thirty-one grains. A column of air of the full height of the atmosphere is equal in weight to a column of water of equal base 34 feet, or to a column of mercury 30 inches in height. The pressure of the air at the level of the sea is nearly 15 pounds to the square inch.

109. By means of atmospheric pressure water rises in the pump to the height of about 34 feet; also, the mercury is sustained in the tube of the barometer to the height of about 30 inches. The pressure varies within certain narrow limits, according to the temperature, humidity, and electrical state of the air, causing a corresponding variation in the height of the mercury in the barometer. This instrument, therefore, becomes an index of the condition of the atmosphere.

110. As we rise above the sea-level, the density and pressure of the air rapidly diminish. At the height of 20,000 feet, the pressure is reduced less than half. Thus the barometer is used for determining the elevation of mountains. In consequence of the diminished pressure, water, mercury, and other liquids boil at a lower temperature on mountains.

The density and pressure of the atmosphere are essential to ani-

mal life. On high mountains breathing is difficult, and the blood bursts from nose, eyes, and ears.

111. The oxygen of the air is the great supporter of combustion; hence where there is a scanty supply of air, the fire goes out or burns feebly. Air is also essential to animal and vegetable life. Carbonic acid, which is highly poisonous to animal life, and is copiously thrown from the lungs in breathing, is absorbed by the plant as the most nutritious food.

Reflection.—112. Objects become visible by the light which passes from them to the eye. Some bodies, like the sun, are luminous, emitting light of their own; others are dark, and are seen by reflecting or throwing off the light which they receive from some luminous body.

The atmosphere reflects the light of the sun, and thus diffuses the rays over the Earth. Were it not for this power of the atmosphere the sun would appear as a bright spot in the heavens, whilst all else would be as dark as night.

113. Twilight is also dependent on the same cause. When the sun is not more than 18° below the horizon, the rays of light which strike the higher regions of the atmosphere are thence reflected to the Earth. As more rays thus find their way to the Earth when the sun is near the horizon, day and night come on gradually.

Refraction.—114. If we hold a straight stick obliquely in a tub of water, it appears broken or bent at the surface of the water.

Place a coin in an empty basin, and stand back until the coin is hidden by the edge of the basin; now pour in water, and although the eye and the coin have not changed their position, the latter will become visible.

These experiments illustrate the refraction of light. The rays reflected from the stick and the coin, on passing obliquely from the water to the less dense air, are bent, so that the object appears more elevated than its real position.

115. The rays of the sun, in their passage through the atmosphere, are constantly passing from a rarer to a denser medium. Consequently, when the rays are oblique, which is always the case beyond the tropics, they are so refracted as to cause the sun to appear more elevated than its real position. Thus, when the sun's lower edge appears just on the verge of the horizon, the whole body of the sun is actually below, and would be invisible but for this property of the atmosphere.

Temperature.—116. The air receives but little heat from the sun's rays on their passage through it, but is chiefly heated by contact with the Earth, or by the radiation of heat from the land and water. The temperature rapidly diminishes as we rise above the sea-level.

As a general law, temperature diminishes 1° for every 300 or 350 feet of elevation. At the height of 16,000 or 17,000 feet, mountains in the hottest parts of the Earth are covered with perpetual snow. In the Temperate Zones the snow-line is much less elevated, and in very high latitudes it is at the level of the sea.

Vapor.—117. Water, in the form of invisible vapor, is constantly rising from the Earth into the atmosphere.

In a hot day we sometimes sprinkle the floor with water to cool the room. In a short time the water all disappears, for its particles absorb the heat, expand, and float away.

118. Copious evaporation depends on three conditions,—a wet surface, strong heat, and wind to bear away the air already saturated with vapor. Hence most vapor rises from the sea within the tropics. As the water-surface is

greatest south of the Equator, we may conclude that most vapor will be formed in that hemisphere.

Very little watery vapor rises higher than five or six miles above the sea-level.

WINDS.

Origin.—119. The air, owing to its lightness and elasticity, is easily set in motion. Winds are currents of air. They are occasioned chiefly by heat.

If the door be set open between two adjoining rooms, one of which is warmer than the other, a current of cold air will be found near the bottom of the door, flowing from the cold room into the warm; whilst near the top of the door a warm current will flow in the opposite direction. A lighted taper held in the door-way will show the direction of the currents.

In like manner, there are currents and counter-currents in the atmosphere. We often see clouds near the Earth moving in one direction, and others more elevated moving in the opposite direction.

Different kinds of Winds.—120. Winds are usually divided into three classes—*permanent*, *periodical*, and *variable*. Permanent winds blow constantly from the same direction: from their benefits to navigation they are usually called *trade winds*. Periodical winds blow from the same direction during certain times of the year or day, as the *monsoons* and *land and sea breeze*. Variable winds shift at irregular intervals.

Trade Winds.—121. The trade winds prevail over the greater portion of the Torrid Zone, extending a few degrees each side in the Temperate Zones. They are more regular on the ocean than on the land. On the north of the Equator they blow from the north-east, and on the south from the south-east.

122. Near the Equator, between the north-east and south-east trade winds, there is a *belt of calms*; and there are also two other similar belts, bordering the trade winds on the north and south. These belts are sometimes disturbed by variable winds and violent storms. They also shift a few degrees north and south as the sun advances in either direction.

123. The trade winds depend on causes similar to those which occasion and regulate ocean currents.

The air in the Torrid Zone is more highly heated than elsewhere. Currents set in from the north and south, which, in consequence of the Earth's rotation, become north-east and south-east winds.

124. In the region of equatorial calms, the currents from the north and south, now greatly rarefied, ascend and become upper currents in the opposite hemispheres. Near the 30th parallels, north and south, these upper currents descend and blow over the temperate regions as surface currents. But as they are now moving towards the poles, their rotatory motion is more rapid than the parts of the Earth where they are blowing, and they become south-west winds in the Northern Hemisphere, and north-west in the Southern. These are the more prevalent winds in the Temperate Zones. Their regularity is much obstructed by electricity, ocean-currents, ice-fields, and other causes.

125. **Monsoons** are caused by a local disturbance of the trade winds. In India, when the sun is south of the Equator, the monsoon is the regular north-east trade wind; but when the sun has passed to the north, and the air over the land becomes more highly heated than that over the sea, a south wind sets in from the Indian Ocean, which, as it travels north, becomes the south-west monsoon. Each monsoon continues about five months. Variable winds and violent storms occur at the change.

There are three monsoon regions:—The Indian Ocean and Southern Asia; the Coast of Upper Guinea in Africa; and the Gulf of Mexico.

Land and Sea Breezes.—126. Along the coast, particularly in tropical countries, about the middle of the forenoon, the air over the land becomes more highly heated than that over the sea; accordingly a sea-breeze sets in towards the land. In the evening, the land cools more rapidly than the sea, and a land breeze blows towards the sea.

Modifying Causes.—127. Winds are greatly modified by the region over which they blow. Those that have crossed large bodies of water are humid; those that have crossed a continent or a high mountain are dry; those that have come over frozen lands or seas of ice are cold; and those from burning deserts are hot and dry. The deserts of Africa and Asia give rise to hot suffocating winds—as the *Simoom* of Arabia, the *Khamsin* of Egypt, the *Harmattan* of the west coast of Africa, and the *Sirocco* of Italy and Greece.

128. A **whirlwind** is a whirling motion of the air, caused by the meeting of opposite currents. Whirlwinds have a progressive as well as a rotary motion. They often take up light bodies into the air. In sandy deserts they carry along clouds of dust.

129. A **waterspout** is a column of water sustained and carried forward by a whirlwind. Waterspouts usually occur over the sea or a lake.

130. A **cyclone** is a violent storm of wind which moves in a great circle. Cyclones are supposed to be vast whirlwinds, moving around a calm centre.

DEW, CLOUDS, RAIN, AND SNOW.

Dew.—131. A cold pitcher or bottle placed in a warm room is soon covered with drops of water. The air of the room contains invisible vapor, which is condensed by contact with the cold surface of the pitcher or bottle. The formation of dew is somewhat similar.

After sun-down the Earth cools rapidly by radiation, the air next the Earth is cooled by contact with cold surfaces, and as its capacity to hold moisture diminishes with its temperature, it deposits a portion of its vapor in the form of dew.

132. Dew is most copious when the atmosphere is most fully saturated with vapor, and when circumstances are most favorable for the radiation of heat during the night. Hence there will be most dew in a clear calm night after a hot day. In some tropical countries the dews are like showers of rain.

The leaves of plants radiate heat rapidly, and are consequently laden with dew, whilst the bare earth is dry.

Clouds.—133. When vapor is so condensed in the upper regions of the atmosphere as to become visible, it forms *clouds*. *Foys* are masses of condensed vapor floating in the air near the earth.

Rain, &c.—134. When clouds are further condensed by currents of cold air, by mountain ridges, or electricity, the particles become large and heavy, and they fall to the earth as *rain, snow, or hail*. **Snow** is frozen vapor; **hail** is frozen rain.

135. Within the tropics the rains are periodical. For several months it rains violently during a portion of every day, and then follows a corresponding season of drought. The rainy season follows the sun from one side of the Equator to the other. The calm belts, near the Equator, have violent rains during a part of almost every day. As these belts shift a few degrees north and south with the sun, they cause two rainy seasons at those places which they cross twice in the year.

136. The sea is the great reservoir from which rain is derived. The many large rivers flowing to the sea show the excess of rainfall on the land above the evaporation from its surface.

It is supposed by some writers that much of the rain which falls in the Temperate Zones is evaporated in the opposite hemisphere. (See *Winds*, 124.)

CLIMATE.

137. The **climate** of a country is the condition of its atmosphere, particularly in respect to *heat, moisture, prevalent winds, and salubrity*.

Climate has an important influence on the plants and animals of a country, as well as on the occupations, habits, and character of its inhabitants.

138. The word "climate" is derived from the Greek *klima*, a slope, and was used by the earlier geographers to designate the belts into which they divided the Earth's surface by imaginary lines parallel to the Equator. Each hemisphere contained thirty climates, twenty-four of which, called *half-hour climates*, were between the Equator and the Polar Circle; the remaining six, called *month climates*, were between the Polar Circle and the Pole. This division of the Earth is now abandoned.

Influences affecting Climate.—139. Heat and moisture, as qualities of climate, are mainly dependent on the following circumstances:—

(1.) Heat and humidity are greatest within the tropics, and both diminish as we approach the poles. (See *Earth as a Planet*, 28.)

(2.) Heat rapidly diminishes as we rise above the sea-level. (See 116.)

The quantity of rain is usually greatest in mountainous regions. (See 134.)

(3.) A maritime position gives a more humid and temperate climate than a continental position. (See 67 and 118.)

(4.) Warm ocean currents increase the heat and humidity of the coasts which they wash; cold currents lower the temperature. (See 101.)

(5.) Prevailing winds have an important influence on climate. Within the trade-wind region the eastern side of the continent is

the most humid; in the temperate region the western side has the most rain. The plains of Brazil, on the east side of South America, have a very humid climate, caused by the prevalent winds from the Atlantic Ocean. (See 127.)

(6.) Mountain chains sometimes protect against hot or cold winds. Regions enclosed with mountain chains, as in Central Asia and on the west side of North America, have little or no rain.

(7.) A general slope towards the Equator increases the heat; a slope towards the pole has the opposite effect. (See *Earth as a Planet*, 27.)

(8.) Cultivation of the soil and drainage, leaving less water to be evaporated, increase the heat. (See 117.)

(9.) Trees attract and condense the vapors of the atmosphere; hence the rainfall is diminished by clearing away forests. In some countries destitute of forests, rain has been increased by planting groves of trees.

Lines of Equal Heat.—140. Temperature depends on so many causes, that places having the same latitude often differ widely in respect to climate. Accordingly, lines connecting places having the same mean temperature do not correspond with the parallels, but approach the Equator or recede from it according to the influence of local circumstances.

Lines of equal mean annual temperature are called *isothermal lines*; those of equal summer temperature, *isothermal lines*; and those of equal winter temperature, *isothermenal lines*.

141. Near the Equator the isothermal lines correspond more nearly with the parallels than in high latitudes. In the Northern Hemisphere, they recede furthest from the Equator on the west side of the continents.

On the west side of America the annual heat is as great at 55° N. as on the east side at 45°. On the west side of Europe the same annual temperature is found even further north than on the west of America.

REVIEW QUESTIONS.

Prove the existence of the atmosphere. Name some of the effects of atmospheric pressure. Explain the cause of twilight. How does the refraction of the sun's rays in passing through the atmosphere affect the length of the day? How does the atmosphere obtain its watery vapor? Illustrate the origin of winds. Describe the trade winds, giving locality, direction, cause, and benefits. How would it affect the climate of South America if the Earth revolved from east to west? Explain the formation of dew. What is the difference between fog and clouds? Prove that the land surface of the Earth receives more water from the atmosphere in the form of rain and snow than it gives off by evaporation. State the principal influences which affect climate. Show how drainage makes land warmer.

THE ORGANIC WORLD.

142. We have seen that the Earth's surface is characterized by great diversity—land and water, mountain and plain, heat and cold, moisture and drought; but not more varied are the features and conditions of different parts of the Earth than are the plants and animals which live upon them.

PLANTS.

143. The number of known species of plants is about 120,000.



THE FRIGID ZONE.

THE TEMPERATE ZONE.

THE TORRID ZONE.

THE ZONES.

Vegetation is most luxuriant and varied in the Torrid Zone. The forests are composed of majestic evergreens, whose trunks and branches support twining plants and parasites in such profusion that it is sometimes difficult to ascertain to which stem the leaves and blossoms belong.

144. Among the most noted trees of the Torrid Zone are the huge baobab, with trunk 30 feet in diameter; the wide-spreading banyan; and the majestic palm, yielding food, drink, and clothing. Here also we find various ornamental woods, dye-woods, gums, drugs, spices, and choice fruits. The most important food plants are rice, dhoura, the banana, bread-fruit, the date-palm, the cocoa-nut palm, and Indian corn.

145. In the Temperate Zones vegetation assumes a new aspect. The oak, maple, beech, and other forest trees, cast their leaves in the autumn. The most important cultivated plants are wheat, rye, oats, and corn; potatoes and other vegetables; and such fruits as the vine, apple, pear, and plum.

146. In the warmer parts of the Frigid Zone, firs, spruces, and dwarf birches are the principal trees; and barley is the chief grain. As we approach the pole we find shrubs of

alder and willow, and finally the mosses and lichens, which bring us to the region of eternal snow.

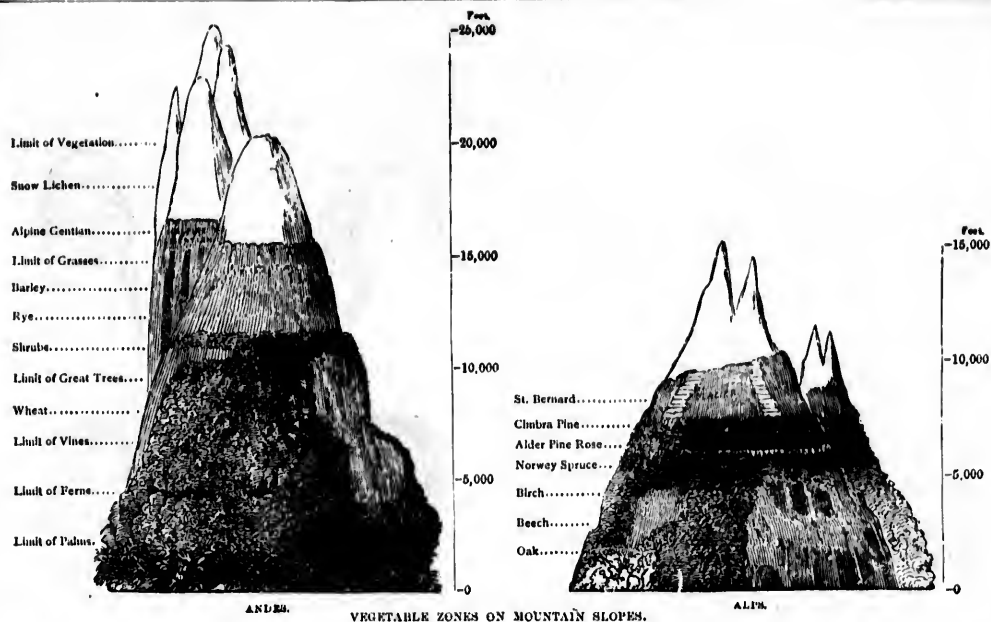
Vegetable Zones.—147. Some writers divide the Earth into six vegetable zones, which are separated by isotherm lines. The following are the six zones, with some of their characteristic plants:—

- (1.) *The Tropical Zone*, yielding spices, coffee, and gums.
- (2.) *The Sub-tropical*, yielding sugar-cane, cotton, and orange.
- (3.) *The Warm Temperate*, yielding the vine, tobacco, and wheat.
- (4.) *The Cold Temperate*, yielding oats, rye, and apples.
- (5.) *The Cold Zone*, yielding barley, vegetables, and pines.
- (6.) *The Arctic Zone*, yielding mosses and lichens.

Mountain Slopes.—148. Mountains in the Torrid Zone whose summits rise above the snow-line, present, within narrow compass, nearly all the variety of vegetation found between the Equator and the poles. At the base of the Andes are the tropical palms; rising one stage, we find tree ferns; then the Peruvian bark tree, the oak, and the vine; next the dwarf trees; then the grasses; and finally the mosses and lichens. A similar gradation is found on the slopes of the Alps and other mountains in the Temperate Zones. (*See Illustration, Vegetable Zones on Mountain Slopes.*)

ANIMALS.

149. The number of known species of animals is about 250,000.



VEGETABLE ZONES ON MOUNTAIN SLOPES.

Most animals are limited in their range by climate, and it is not usual to find precisely the same species in countries remote from each other, though their climates may be quite similar.

There is frequently such a resemblance in the species of different continents that they are styled representative species—as the crocodile of Africa and alligator of South America.

150. The Torrid Zone surpasses the other parts of the Earth in the number, size, and beauty of its animals. Some of the most important are the elephant, rhinoceros, hippopotamus, camelopard, lion, tiger, leopard, panther, monkey, crocodile, alligator, boa, and ostrich. Insects are very numerous in this zone.

There are two species of elephants; the larger is confined to Asia, the smaller to Africa. The lion is peculiar to Asia and Africa; the puma is its representative in America. The camel is also peculiar to Asia and Africa; the llama of the Andes is the American camel.

151. The animals of the Temperate Zones are less ferocious than those of the Torrid Zone. Some of the more important are the bison, deer, ox, horse, boar, wolf, bear, fox, beaver, and hare; and among the birds, the eagle, turkey, goose, and pheasant.

152. The animals of the Frigid Zones are generally of a dusky color. There are but few species. The more important are the reindeer, musk ox, polar bear, grizzly bear,



GRIZZLY BEAR.

arctic fox, ermine, sable, sea otter, whale, walrus, and seal. The birds are generally waders and swimmers, found along

the shores in summer. There are no reptiles, and but few insects.

The grizzly bear is peculiar to the Rocky Mountains of North America.

MAN.

153. The total number of human beings on the Earth is estimated at 1,500,000,000.

Man can subsist upon almost all kinds of food. In the tropical regions he lives principally on rice, cocoa-nuts, bananas, and various fruits; in the temperate regions he lives on the various grains and vegetables, combined with animal food; in the frozen regions, where the earth yields nothing, he betakes himself almost entirely to animal food. By his pliable physical nature, and his skill in adapting his clothing and shelter to varied circumstances, he subsists under every condition of climate. He thus takes the whole Earth as his domain.

154. It is only in temperate climes, however, that man attains to the fullest development of all his powers. Intense heat, and the absence of incentives to activity, in the Torrid Zone, render him effeminate; pinched by cold in the Arctic regions, and requiring to exert all his energies to sustain the body, he makes but little progress in civilization; in temperate climates activity is both needful and agreeable—a moderate amount of labor secures the necessities of life, and there are leisure and inclination for mental culture.

Diversity.—155. We see the greatest diversity of physical features prevailing over the Earth. It is probable that every country makes its own impress on human character. The inhabitants of the rugged mountain are not like the inhabitants of the plain; those who live by the sea-side differ from those of the interior; hence national peculiarities.

156. The nomadic herdsmen of Central Asia, who need to be ever on the move to find fresh pasturage, seek little beyond the supply of present wants, make no efforts to improve the place of their sojourn, and never rise beyond the rude condition of their ancestors. Their wandering habits enable them to commit crime with impunity, and accordingly they are noted for outrage and robbery.

157. The inhabitants of Central Africa are isolated from the rest of the world; they know nothing of its improvements; are never stimulated by its riches; never hear of its Christianity; and so, never awakened to struggle for anything more elevated as regards this life or the life to come, they continue immured in barbarism.

158. In the temperate regions of Europe and North America we find a fixed population, enjoying free intercourse with other countries, and enlightened by Christianity. In these parts of the world we find the highest civilization and the greatest power.

159. Since the inhabitants of the various parts of the world are exposed to such diversified influences, it is not surprising to find many marked peculiarities in different portions of the human family. The most striking physical differences are in *color, form of the skull, features of the face, qualities of the hair, and the stature.*

160. It is usual to divide mankind into *five races*, or varieties:—

The Caucasian, or white race; *the Mongolian*, or yellow race; *the Ethiopian*, or black race; *the Malay*, or brown race; and *the American*, or red race.



FIVE RACES OF MEN.

1. The Caucasian, or white race.
2. The Mongolian, or yellow race.
3. The Ethiopian, or black race.
4. The Malay, or brown race.
5. The American, or red race.

The five races are not separated by very sharp lines, but shade into each other through subordinate varieties.

161. The **Caucasian Race** has the skin light-colored, the skull large, the face oval, the forehead expanded, the chin full, and the teeth vertical. This race takes its name from the Caucasus Mountains, near which is the supposed centre from which the race emanated, and indeed the birth-place of the whole human family. It comprises nearly all the inhabitants of Europe, Western Asia, Northern Africa, and America. It surpasses the other races in intellectual power, in activity, and in energy of character; and it has been the dominant race from the earliest times.

162. The **Mongolians** have a low retreating forehead, broad face, oblique eyes, and dark straight hair, in some respects resembling the North American Indian. They include the inhabitants of Eastern Asia, with the Finns, Laplanders, Magyars, and Turks of Europe, and the Esquimaux of North America.

163. The **Ethiopian Race** is black or dark brown, and the hair is black and woolly; the forehead is low, the cheek-bones prominent, the nose broad and flat, and the lips thick. This race comprises the inhabitants of Africa south of the Great Desert and Abyssinia, except the Europeans of the Cape, including the Negroes, Kaffres, and Hottentots. It also includes the natives of Australia and Papua, although these differ considerably from the African negro.

164. The **Malay Race** is brown, the hair is black, the forehead is low, the nose short and broad, and the jaws project. This race inhabits the peninsula of Malacca, the islands of Malaysia, Polynesia, and New Zealand.

165. The **American Race** includes the aborigines of America, with the exception of the Esquimaux. This race is of a copper color; the hair is coarse, straight, and black; the cheek-bones are high; the nose is aquiline; the mouth is large; and the figure is lean and muscular.

166. It is computed that the Caucasian and Mongol races are about equal in number, each comprising more than two-fifths of the human family. The Ethiopian race includes about one-seventh, the Malay one-twenty-fifth, and the American one-hundredth of the inhabitants of the globe.

Religion.—167. Nearly all races and conditions of men believe in some spiritual Power or Powers superior to themselves, whose favor they are anxious to secure. The forms of religious belief, and the practices arising out of those forms of belief, are almost endless. Those who are ignorant of the true God make to themselves false ones, and those who worship the true God differ in many essential points of faith and practice.

168. There are five principal systems of religion in the world,—*Christianity, Judaism, Mohammedanism, Brahminism, and Buddhism.* All originated in Asia. To the above may be added the *fetich-worshippers* or charm-worshippers of Central Africa.

Christians are divided into three great bodies,—*Protestants, Roman Catholics, and the Greek Church.* They include less than one-third of the human race, or about 380,000,000, embracing nearly all the inhabitants of Europe and America. The Jews number about 8,000,000; the Mohammedans, about 160,000,000; the Brahminists, 200,000,000; the Buddhists, 480,000,000; other religions, about 212,000,000.

Social Conditions.—169. The various conditions of human society may be reduced to three principal classes, represented by the hunter, the shepherd, and the agriculturist.

170. In hunter life, which is the lowest type, men wander about, living in tents and owning no property except a few movables. They are divided into small tribes, and have no regular government. The Indians of North America are an example.

171. Pastoral life is also migratory, and there is no individual right in the soil; but here we find an increase of property in the form of domestic animals,—as horses, cattle,

and sheep. The people are generally subject to a central head. The nomads of Central Asia are an example.

172. In the third and highest state of society, men have fixed abodes and an individual ownership in the soil, from which they derive their chief subsistence. Here only do we find vast accumulations of wealth in various forms. The country is ever changing its aspect through the improving hand of man. Carriage-roads, rail-roads, and canals are constructed; manufactories are established; trade is prosecuted; large cities are built; and men rise to the highest condition of civilization.

Government.—173. In civilized society men are combined into States, called *empires, kingdoms, or republics.* There are two principal forms of government,—*monarchy, and democracy,* where the power is vested in a single person; and *democracy,* where the chief power is in the hands of the people, or such of themselves as they shall elect for a limited period.

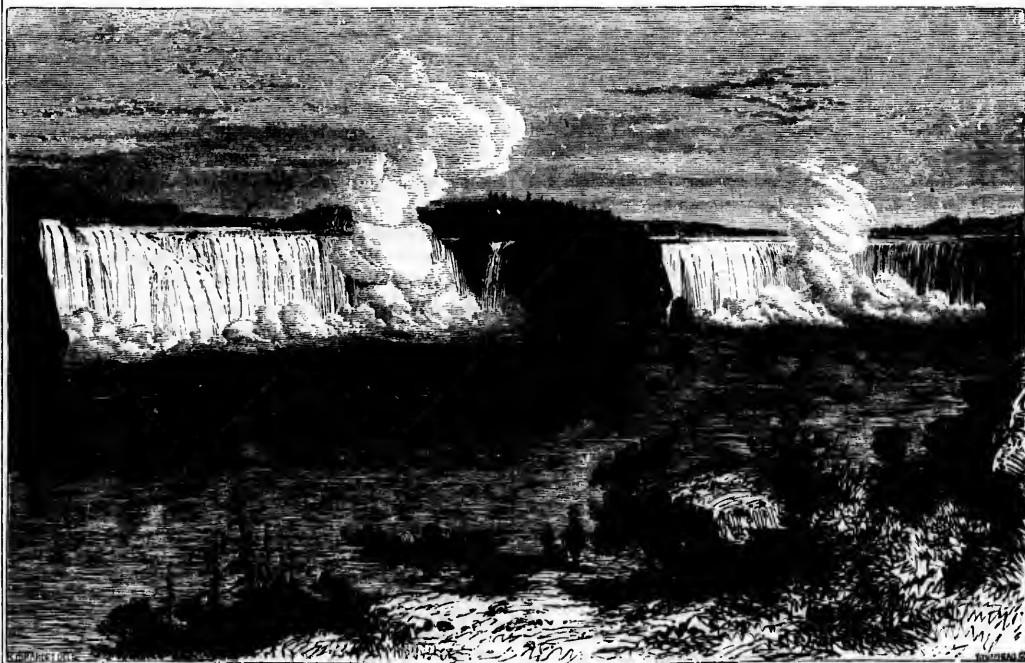
174. Monarchies are *absolute or despotic* when the sovereign makes such laws as he pleases; they are *limited or constitutional* when the legislative power is shared by the crown and a popular assembly, and the sovereign is required to govern according to fixed principles called the *constitution.* This form combines the principles of monarchy and democracy.

The government of Great Britain is a limited monarchy; that of Russia is an absolute monarchy; that of the United States, a democracy.

REVIEW QUESTIONS.

Give the general characteristics of the vegetation of each zone. What is the general character of the animals of each zone? How does man accommodate himself to the various conditions of the countries in which he lives? Show how the physical conditions of a country affect the character of its inhabitants. Give the characteristics of the different races, and state the parts of the Earth inhabited by each race. What are the principal forms of religion? Show how agricultural life tends to promote civilization. Name the leading forms of government, and give the character of each. What is a monarchy, and what are the two leading forms of monarchy? What is a constitutional government? What is a kingdom? What is an empire? What is a republic?

NORTH AMERICA.



FALLS OF NIAGARA.

I. **History.**—1. The Continent of America takes its name from Americus Vesputius, a native of Florence, who explored a part of the coast of South America in the year 1499.

Northmen from Norway discovered North America about 1000 A.D., and during the two succeeding centuries they visited the country frequently. They crossed the Atlantic to Newfoundland by way of their colonies in Iceland and Greenland, visited Nova Scotia, and sailed south as far as Massachusetts.

2. Christopher Columbus, a native of Genoa, sailing from Spain under the patronage of the sovereigns Ferdinand and Isabella, discovered the West Indies in 1492.

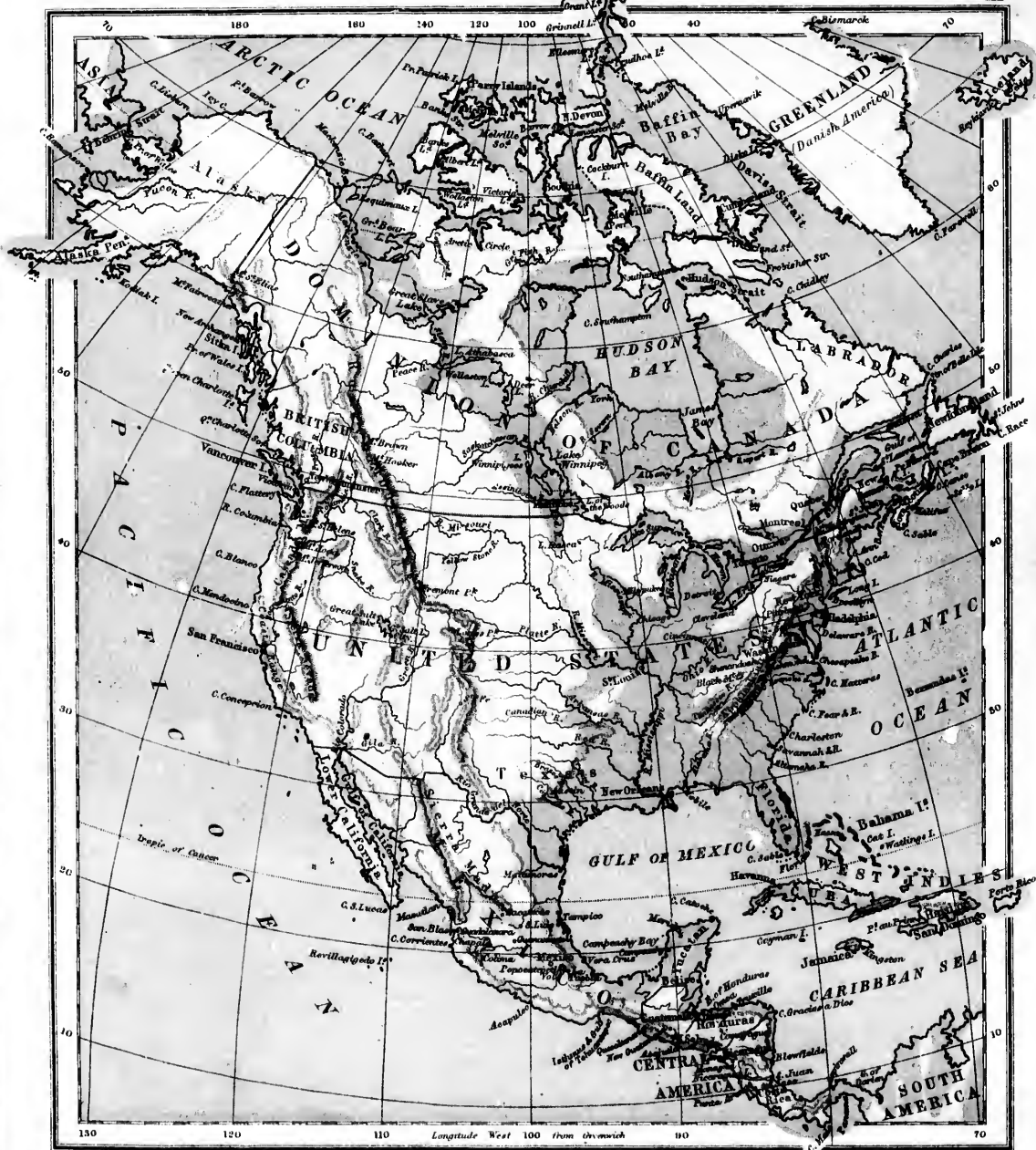
Columbus had been confirmed in his belief that land was not very remote beyond the western waters, by the fact that bodies of men, differing from any known race, pieces of carved wood, and various tropical products, were frequently cast upon the shores of the Azores and Madeira Islands. (*See Physical Geography, 97.*)

3. Columbus discovered the mouth of the Orinoco, on the coast of South America, in 1498, and the coast of Central America in 1502. He was never aware that he had found a new continent, but supposed that the lands he had visited were outlying portions of Asia. The grand aim of the times in which he lived was to find a shorter passage to India than the then recently discovered route around Africa.

4. Seeking a short navigable route to China and India, John Cabot and his son Sebastian, sailing from Bristol, in England, in

NORTH AMERICA

III



Green — general elevation below 500 feet
 Yellow — between 500 and 5000 feet
 Pink — above 5000 feet
 — Political boundaries

English Miles
 100 0 200 400 600 800 1000
 Scale of 600 Miles to an Inch.
 One Square Inch comprises 225 times the Area of One Sq. Inch of Map 1.

not very
 of men,
 and various
 the Azores

const of
 in 1502.
 but sup-
 of Asia.
 shorter
 around

a, John
 ward, in

146

No

Sel

Am

5

att

fab

Spe

wit

arr

T

Spe

I

the

the

I

in

Beh

N

gre

N

I

tria

T

of I

Am

T

C

Cap

Gua

I

equ

Pac

Th

9.

Str

St. L

Cal

Hon

Cha

H

form

to pe

Th

range

10.

Flori

11.

Point

Race

Caloc

Flatta

12.

In

North

vario

1497, took a more northerly course than Columbus, and discovered Newfoundland and the coast of Labrador. In the following year Sebastian Cabot explored a large part of the coast of North America.

5. The New World, as America was called, presented great attractions to many European adventurers eager for wealth. Many fabulous stories concerning it were believed. Ponce de Leon, a Spaniard, in search of a *fountain of life* to renovate his aged limbs with fresh youth, discovered Florida, where he was killed by the arrow of an Indian.

The southern part of North America was colonized by the Spaniards; the central portions by the British and French.

II. Position.—6. North America has the Arctic Ocean on the north; the Atlantic on the east; the Gulf of Mexico on the south-east; and the Pacific on the west.

It is joined to South America by the *Isthmus of Panama*, 38 miles in breadth; and it is separated from Asia on the north-west by *Behring Strait*, about 50 miles broad.

North America is wholly in the Northern Hemisphere, and the greater part of it is in the North Temperate Zone.

N. lat. 7° — 72° ; W. lon. 55° $30'$ — 168° .

III. Form.—7. The general outline of North America is triangular.

The narrow portion in the south-east, between the Isthmus of Panama and the Isthmus of Tehuantepec, is called *Central America*.

The angular points are:—

Cape Prince of Wales, in the north-west, 65° $30'$ N., and 168° W.; Cape Charles, in the north-east, 52° $15'$ N., and 55° $30'$ W.; port of Guatemala, in the south, 15° N., and 90° $30'$ W.

IV. Coast.—8. The Arctic and Atlantic coasts are nearly equal in length, and are much more irregular than the longer Pacific coast.

The coast line is estimated at 24,000 miles.

9. The principal **coast waters** are, *Hudson Bay* and *Strait, Davis Strait, Baffin Bay, Strait of Belle Isle, Gulf of St. Lawrence, Bay of Fundy, Chesapeake Bay, Florida Strait, Gulf of Mexico, Campeachy Bay, Caribbean Sea, Bay of Honduras, Gulf of Tehuantepec, Gulf of California, Queen Charlotte Sound, and Behring Strait*.

Hudson Bay and the Gulf of Mexico are large inland seas. The former was discovered by Henry Hudson, who was afterwards left to perish in its waters by his mutinous crew.

The Gulf of California, running in between parallel mountain ranges, is the chief inlet on the west.

10. The **peninsulas** are *Boothia, Melville, Labrador, Nova Scotia, Florida, Yucatan, Lower California, and Alaska*.

11. The principal **capes** are, *Prince of Wales, Lisburn, Icy Cape, Point Barrow, Bathurst, Columbia, Chidley, Charles, Farewell, Race, Sable (Nova Scotia), Ann, Col, Hatteras, Sable (Florida), Catoche, Gracias-a-Dios, Malo, Corrientes, St. Lucas, Mendocino, Flattery, and Romanzon*.

12. The most important **islands** are the following:—

In the Arctic—*Greenland, Iceland, Grinnell Land, or Ellesmere, North Devon, Cockburn, Cumberland, Southampton*. There are also various others.

On the east—*Newfoundland, Anticosti, Prince Edward, Cape Breton, Long Island, the Bermudas, and the West India*.

On the west—*Vancouver, Queen Charlotte, Prince of Wales, Sitka, Kodiak, and the Aleutian Isles*.

V. Area.—13. The area of North America is about 8,500,000 square miles; or it equals a square of 2915 miles. It comprises one-sixth the land surface of the globe.

The extreme length from north to south is 5600 miles; the breadth on the 45th parallel is 3120 miles.

VI. Surface.—14. North America may be divided into four great natural divisions: a broad and elevated highland region on the west; a narrower and less elevated highland region on the east; a great lowland plain through the middle; and a narrow lowland plain along the Atlantic coast.

15. The **Western or Pacific Highlands** extend the whole length of the continent, from the Arctic Ocean to the Isthmus of Panama. They consist of a broad plateau ridged with lofty mountain ranges. At each extremity this highland region is of moderate elevation; it attains its greatest breadth and height near the middle of the continent. The principal mountain ranges extend north and south, and include the *Rocky Mountains* on the east, and the *Sierra Nevada, the Cascade, and the Coast Mountains* on the west.

16. The **Rocky Mountains** are the most important in North America, forming the great watershed of the continent. The system extends from the Arctic Ocean to Central America, including in some parts two or more parallel ranges. The principal range in Mexico is called the *Sierra Madre*.

17. The Rocky Mountains are wild and rugged, and difficult to cross. In the central and more elevated parts are many lofty peaks, nearly three miles high. The lower slopes are covered with dense forests; further up are grasses and gay-colored flowers; and the summits are masses of rock clad with everlasting snow.

18. Some of the principal peaks of the Rocky Mountains are *Mount Brown, 15,000 feet high; Mount Hooker, 14,700 feet; Long's Peak, 14,270 feet; Pike's Peak, 14,147 feet. Popocatepetl, a volcano in the south of Mexico, 17,884 feet, is the highest point*.

19. The **Sierra Nevada, or Snow Mountains, and the Cascade Mountains** are the principal ranges on the west of the Pacific highlands. The Sierra Nevada extend from Cape San Lucas to the north of California; the Cascade Mountains are properly a continuation of the same system through Oregon, Washington, and British Columbia. These mountains are much broken by deep canyons, and they are noted for their rich mines of gold and silver. The **Coast Mountains** are a low range skirting the shores of the Pacific.

20. **Mount St. Elias, a volcanic peak in the north, the highest mountain in North America, has an elevation of 19,500 feet. Other lofty peaks in these ranges are, Mount St. Helens, 15,750 feet; Mount Fairweather, 14,780 feet; Mount Hood; Mount Jefferson, 15,500 feet; Whitney, Shasta, and Tyndall**.

21. On the east of the Rocky Mountains are great plains, 5000 feet high at the base of the mountains, which slope gradually to the central lowlands. Between the Rocky

Mountains and the western ranges are table-lands from 2000 to 7000 feet high, divided into great basins by short mountain ridges.

22. The **Atlantic Highland Region** is much shorter, narrower, and less elevated than the Pacific. It extends from Hudson Strait, in the north, nearly to the Gulf of Mexico. It is divided into two portions by the valley of the St. Lawrence. The northern division is the broadest. The principal mountains are the *Appalachian*, or *Alleghany System*, in the southern division, sloping easterly to the Atlantic and westerly to the central plain. They are noted for their rich mines of coal and iron.

23. The **Appalachian Mountains** consist of several low parallel ranges between the south bank of the St. Lawrence and 33° north latitude. Some of the most important ranges are, the *Blue Ridge*, the *Shenandoah Mountains*, the *Alleghany Mountains*, the *Adirondack*, the *Green Mountains*, and the *White Mountains*.

The average height of the system is about 2500 feet. The highest points are, *Mount Washington*, in the White Mountains, 6428 feet; and *Black Mountain*, in the Blue Ridge, 6476 feet.

24. The **Central Plain**, between the highland regions, extends from the Arctic Ocean to the Gulf of Mexico. It is divided by a low watershed, about 1500 feet in height, near the 48th parallel, and thus consists of two slopes, a *northern* and a *southern*.

25. The **Atlantic Plain** is a narrow strip of lowland bordering the Atlantic Ocean. It widens at the south, and unites with the central plain on the Gulf coast.

The pupil will observe that the Rocky Mountains are nearly in a straight line between 140° west longitude, in the north, and the Isthmus of Tehuantepec.

VII. Rivers.—26. North America contains some of the largest rivers in the world. They may be grouped in five systems, according to the slopes which they drain,—the *Arctic*, the *St. Lawrence*, the *Atlantic*, the *Gulf of Mexico*, and the *Pacific*.

27. The **Arctic System** comprises the rivers which drain the northern section of the central plain, and flow into the Arctic Ocean and Hudson Bay. The principal rivers are, the *Yukon*, *Mackenzie*, *Coppermine*, *Great Fish*, *Churchill*, *Saskatchewan*, *Red River*, and *Nelson*.

Most of the rivers on this slope are of little commercial importance, as they flow into frozen seas, and are themselves frost-bound during a large part of the year.

28. The **Yukon** is a large river, about 2000 miles long, which falls into Behring Strait.

29. The **Mackenzie**, the great river of the north, is one of the longest rivers in the world. From its mouth to the source of its longest tributary the entire length is over 2400 miles, and it is computed that it drains a territory of 580,000 square miles. Its principal tributaries are, the *Athabasca*, *Slave*, *Peace*, and *Finlay Rivers*. In its basin are *Great Bear Lake*, *Great Slave Lake*, and *Lake Athabasca*.

30. The **Saskatchewan**, the most important river on the northern slope, drains a territory of 370,000 square miles. It has two principal branches, which rise in the Rocky Mountains within a short distance of each other. It flows into Lake Winnipeg. The **Nelson**, a large river with numerous rapids and falls, carries the surplus waters of Lake Winnipeg to Hudson Bay.

Red River, sometimes called the *Red River of the North*, rises in the United States, not far from the source of the Mississippi. It is about 700 miles in length. Forty miles from its mouth it unites with the Assiniboine.

31. The **St. Lawrence**, including the great lakes, rises under the name of the *St. Louis* on the south of the watershed dividing the central plain.

The inclination of the basin is first south-easterly, then north-easterly. The internal navigation afforded by the river and lakes is of the highest importance. The entire length is about 2000 miles. The principal tributaries of the St. Lawrence are, the *Ottawa*, the *St. Maurice*, and the *Saguenay*.

32. The **Atlantic System** includes the numerous streams which drain the Atlantic slope of the Appalachian Mountains. The most important are, the *St. John*, *Connecticut*, *Hudson*, *Delaware*, *Susquehanna*, *Potomac*, *James*, *Roanoke*, *Cape Fear*, *Santee*, and *Savannah*.

The rivers of this slope are comparatively short and small, but they are of great importance. Some are navigable for a considerable distance, and many furnish valuable water-power for working machinery. The Hudson is noted for its beautiful scenery.

33. The **Gulf System** comprises the rivers on the southern section of the central plain, flowing into the Gulf of Mexico. The principal rivers are, the *Alabama*, *Mississippi*, *Brazos*, *Colorado*, and *Rio Grande*.

34. The **Mississippi** (*Father of Waters*) is the largest river of North America. It flows from Lake Itasca, about 1575 feet above the sea-level. The entire length is about 3200 miles. The most important tributaries are, the *Ohio*, on the east; and the *Missouri*, *Arkansas*, and *Red River*, on the west. Following the Missouri, the river is over 4000 miles in length. The *Platte* and *Kansas* are large tributaries of the Missouri. This immense river system opens to commerce the whole southern section of the plain.

Below the mouth of the Arkansas the banks of the Mississippi are low, and in the spring the river overflows, covering large tracts of country with water. Near its mouth the Mississippi divides, entering the Gulf by various branches, which enclose deltas of alluvial land.

35. The **Pacific System** includes the streams on the west of the Rocky Mountains, flowing into the Pacific Ocean. The most important are, the *Colorado*, *Sacramento*, *Columbia*, *Fraser*, and *Simpson*.

Some of the rivers of this slope are navigable for many miles; in others, navigation is soon impeded by rapids and waterfalls. Some have a large part of their course through desert regions, or they flow through a rugged, mountainous country, where they have cut for themselves deep narrow gorges in the solid rock.

Many of the streams between the Sierra Nevada and the Rocky Mountains have no outlet to the ocean, but flow into salt lakes. The *Humboldt* is an example.

VIII. **Lakes.**—36. North America surpasses all the other great divisions in the grandeur of its lakes. The most important are the five great lakes—*Superior, Huron, Michigan, Erie, and Ontario*—in the basin of the St. Lawrence. They have a united area of 90,000 square miles, or equal to a square of 300 miles. In connection with the river St. Lawrence, they form a water-road nearly half-way across the continent.

37. **Lake Superior**, the largest body of fresh water in the world, is 420 miles in length, and has an area of 32,000 square miles. Its depth is about 1200 feet, and its surface is 630 feet above the sea-level. It receives no large streams, the *St. Louis*, about 100 miles long, and the *Nipigon* being the most important. Its outlet is the *St. Mary River*. Near the coast of Lake Superior are rich mines of copper and silver. On the south shore are cliffs of curiously-colored sandstone, called the *Pictured Rocks*.

38. **Lakes Michigan and Huron** are each about two-thirds the size of Lake Superior. Michigan is connected with the Mississippi River by a canal. Huron contains many islands, of which *Grand Manitowic* is the largest.

39. **Lake Erie** receives the waters of the upper lakes through the *St. Clair River, St. Clair Lake, and the Detroit River*. It is about 240 miles long, 80 miles broad, and has less than one-third the area of Lake Superior. It is the shallowest of the great lakes, being little over 100 feet deep. Its surplus waters are carried to Lake Ontario by the *Niagara River*.

40. **Lake Ontario**, the smallest of the great lakes, is less than one-fourth the size of Lake Superior. It is about 190 miles in length, and 65 in breadth. Its surface is 330 feet below that of Lake Erie, and 234 feet above the sea-level.

41. *Lake of the Woods, Winnipeg, Winnipegosis, Manitoba, Deer, Wollaston, Athabasca, Great Slave, and Great Bear Lakes*, are large lakes on the northern slope. *Great Salt Lake* is on the plateau west of the Rocky Mountains; *Chapala*, on the plateau of Mexico; *Nicaragua*, in Central America.

42. **Great Slave Lake** is about the size of Lake Erie. **Great Bear Lake** is very irregular in form; its area is computed to be 14,000 square miles. **Great Salt Lake** is 70 miles long and 30 miles broad. Its greatest depth is about 30 feet. In the lake are islands over 3000 feet high. **Lake Nicaragua** is 140 miles in length.

IX. **Soil.**—See various divisions.

X. **Climate.**—43. The northern part of the continent, except the west coast, has a very cold climate; in the south, with the exception of the highlands, it is very hot. The central part, including the larger portion, has a temperate climate, except the cold mountain heights of the west. Owing to the warm ocean currents and the prevalence of south-westerly winds, the western coast, from the mouth of the Columbia River northward, is much milder than the eastern in the same latitude. (See *Physical Geography*, 101, 141.)

44. A line drawn south-easterly from the Peninsula of Alaska, through Great Bear Lake and along the south of Hudson Bay, to the mouth of the St. Lawrence, would mark the northern limit of

the temperate region; a line from the northern point of the Gulf of California to the extreme north of the Gulf of Mexico, its southern limit.

45. The quantity of rain is very unequal in different parts of the temperate region. The most humid portion lies between the Pacific coast and the Sierra Nevada and Cascade ranges. Throughout the highland region east of these ranges the rain is chiefly confined to the more elevated mountain slopes. There is thus a rainless region on each side of the Rocky Mountains,—that on the east is from 200 to 400 miles in breadth, and has its northern limit near the parallel of 53° N. latitude.

The Atlantic side of the continent, including the central plain, is generally well watered.

46. The **rain winds** on the western side of the continent blow from the south-west, obtaining their moisture from the Pacific. Their vapors are condensed, and give abundance of rain to the western slopes of the Coast, Sierra Nevada, and Cascade Mountains. Crossing the warmer plateau region east of these ranges, the wind leaves no rain, but on striking the more elevated western slopes of the Rocky Mountains the remaining moisture is condensed and falls as rain or snow. On the eastern side they blow from the south-west, south, and east, bringing moisture from the Gulf of Mexico and the Atlantic. (See *Physical Geography*, 124.)

XI. **Minerals.**—47. Almost all the important minerals are abundant in North America, including gold, silver, iron, coal, lead, copper, and quicksilver.

48. **Gold** is most abundant in California, Colorado, and British Columbia; **silver** in Nevada, Mexico, and Ontario; **coal** and **iron** are plentiful in Nova Scotia, New Brunswick, Pennsylvania, and other countries; **lead** is abundant in Missouri, and other states on the Mississippi; **copper** near Lake Superior and in Newfoundland; **quicksilver** in California; **petroleum** in Ontario and Pennsylvania.

XII. **Plants.**—49. Vegetation is diversified according to the climate.

When America was discovered, the temperate region, excepting the prairies of the central plain and the rainless districts, was clothed with forests of pine, oak, maple, chestnut, and other trees. Many of these forests have been cut away, and in their place are fields of wheat, corn, and other grains. Towards the south, tobacco, cotton, and rice are cultivated.

50. Among the trees of the hot region in the south are mahogany, rosewood, logwood, cocoa-nut, banana, orange, and lemon. The cultivated plants include sugar-cane, coffee, tobacco, and pine-apples. (See *Physical Geography*, 143-146.)

In the cold regions of the north trees do not grow, and the chief plants are shrubs, lichens, and mosses.

The dry table-lands of the west have neither tree nor shrub. The principal vegetation is the cactus, in the south, and the sage-bush further north.

On the humid western slopes of the Sierra Nevada and Cascade Mountains are magnificent forests of pines, cypresses, cedars, and other trees.

XIII. Animals.—51. The wild animals of America are not equal in size to those of Asia and Africa.

Large herds of bison, or buffalo, roam over the plains east of the Rocky Mountains, and in the western mountains are the grizzly bear and the puma. The other large animals of the temperate region are the moose, deer, cariboo, brown bear, and the wolf.

52. The animals of the north are generally clothed with fur. The musk-ox and reindeer are found during the short summer feeding on the mosses and low plants; in winter they retreat to the forests further south. (*See Physical Geography, 152.*)

53. In the hot region are the tapir, jaguar, puma, sloth, armadillo, monkey, and alligator. Insects are very numerous. The cochineal is an important article of commerce.

XIV. Inhabitants.—54. The population of North America, including the West Indies, is estimated at 86,500,000. The great majority are of European origin.

The south of the continent was colonized principally by Spaniards; the temperate region by British, Irish, and French.

There are many negroes in North America, whose ancestors were brought from Africa as slaves. All are now free, except in the Spanish West Indies.

55. The aborigines include two races. The Indians, or copper-colored race, are thinly scattered over the continent. On some of the northern coasts and islands of the Arctic Ocean are a few called Esquimaux, usually classed with the Mongolians of Asia. They are of small size, clothe themselves with the skins of animals, and in winter live in snow houses.

Christianity is the principal religion. The inhabitants of British origin are Protestants and Roman Catholics; those of Spanish and French origin are chiefly Roman Catholics.

XV. Divisions.—56. The principal portion of the main body of North America is divided nearly equally between the *Dominion of Canada* in the north, and the *United States* in the middle.

The other divisions are, *Mexico*, towards the south; and *Central America*, comprising various small states in the narrow portion in the south; the *West Indies*, between North and South America; the *Territory of Alaska* in the north-west, belonging to the United States; and *Danish America*, comprising the islands of *Greenland* and *Iceland*.

XVI. Towns.—57. Nearly all the principal cities are on the Atlantic side of the continent, either on the coast or beside a navigable river. New York, in the United States, with a population of over a million, is the largest city.

In Mexico and Central America the cities are generally on the table-land of the interior.

XVII. Industries.—58. The chief occupations are agriculture, manufacturing, mining, fishing, and commerce.

XVIII. Government.—59. The governments of North America are representative, the people choosing from among themselves the men who make the laws. The

Dominion of Canada is a dependency of Great Britain. The United States is the most powerful *republic* in the world. Mexico and the states of Central America are republics.

EXERCISE I.

[MAP OF NORTH AMERICA.]

Point out and describe the coast waters, peninsulas, capes, islands, mountains, rivers, lakes, and political divisions of North America.

See Sections 9, 10, 11, 12, 15, 18, 20, 23, 27, 31, 32, 33, 35, 36, 41.

MODELS.

(1.) *Hudson Bay* is a large inland sea in the north-east of the *Dominion of Canada*. Its southern extremity is called *James Bay*. It is connected with the Atlantic Ocean by *Hudson Strait*.

(2.) *Labrador* is a peninsula between *Hudson Bay* and the *Gulf of St. Lawrence*, and includes the most easterly land on the continent of America.

(3.) *Cape Prince of Wales* is the north-westerly point of North America, on *Behring Strait*, and approaches nearer to Asia than any other part of the continent.

(4.) *Newfoundland* is a large island in the *Gulf of St. Lawrence*, separated from the mainland by the *Strait of Belle Isle*.

(5.) *The Rocky Mountains* are towards the western side of North America, extending north and south through the whole length of the continent. In Mexico the principal range is called the *Sierra Madre*.

(6.) *The Mackenzie River* rises in the western highlands, under the name of the *Peace River*, which has a generally north-easterly course, and flows into *Lake Athabasca*; thence it flows north-westerly to *Great Slave Lake*, under the name of the *Slave River*. Issuing from *Great Slave Lake* as the *Mackenzie*, it continues a north-westerly course to the Arctic Ocean.

(7.) *Lake Superior*, the largest fresh-water lake in the world, is situated on the border between the *Dominion of Canada* and the *United States*, about one-third the distance between the Atlantic Ocean and the Pacific. It receives no large streams. It forms the head-waters of the *St. Lawrence*. It discharges its surplus waters into *Lake Huron*.

(8.) *The Dominion of Canada* is in the northern half of the continent. It is bounded on the north by the Arctic Ocean, on the east by the Atlantic Ocean, on the south by the United States, and on the west by the Pacific Ocean and Alaska.

EXERCISE II.

Draw a map of North America, marking principal coast waters, peninsulas, capes, islands, mountains, rivers, lakes, and political divisions.

ncy of Great Britain.
verful *republic* in the
Central America are

ica.]

ters, peninsulas, capes,
l political divisions of

, 23, 27, 31, 32, 33, 35,

sea in the north-east of
ern extremity is called
he Atlantic Ocean by

a Hudson Bay and the
e most easterly land on

north-westerly point of
d approaches nearer to
ent.

nd in the Gulf of St.
and by the Strait of

ards the western side of
outh through the whole
he principal range is

the western highlands,
which has a generally
he Athabascu; thence it
ike, under the name of
lave Lake as the Mac-
course to the Arctic

water lake in the world,
minion of Canada and
e distance between the
eives no large streams.
wrence. It discharges

n the northern half of
e north by the Arctic
n, on the south by the
ific Ocean and Alaska.

arking principal coast
ountains, rivers, lakes,



1
4
2
1
2

Longitude West 80 from Greenwich
English Miles
Scale of 200 Miles to an Inch

I.
as a

61. *Virgin*
the In
of rom
Emil
land U
slope.
Ing w

62. *Atlant*
Atlant
Grand
whole
became

63. I
thirtee
her cla
She sti
Prince

64.
vinces
two be

65.
Bay T
in the
tory, v
of this
simbol

66. I



RIVER ST. LAWRENCE.

THE DOMINION OF CANADA.

I. **History.**—60. The Dominion of Canada was organized as a confederate state, July 1, 1867.

61. The first British settlement in America was made at Jamestown in Virginia, in 1607. The exploits of Captain John Smith, and his rescue from the Indians by Pocahontas, the daughter of an Indian chief, gave a touch of romance to the early history of this colony.

Emigrants from Britain, many of whom were driven from their native land by religious persecution, formed several colonies along the Atlantic slope. In 1733, the colonies numbered thirteen, of which the most interesting was Massachusetts, settled by the *Pilgrim Fathers*, who crossed the Atlantic in the *Mayflower* in the year 1620.

62. The French also established colonies in North America—one on the Atlantic coast, called *Acadie*, and another on the St. Lawrence, named *Canada*. These colonies were finally ceded to Great Britain in 1763. The whole eastern side of the continent, except the peninsula of Labrador, thus became British territory.

63. In 1783, Great Britain, by acknowledging the independence of her thirteen oldest colonies, now included in the United States, relinquished her claims to the southern portion of her possessions in North America. She still retained Nova Scotia, New Brunswick, Canada, Newfoundland, Prince Edward Island, and Hudson Bay Territory.

64. The Dominion, as constituted in 1867, comprised the *Provinces of Nova Scotia, New Brunswick, Quebec, and Ontario*, the last two being formed out of the old Province of Canada.

65. In 1870 the large tract of country, long known as Hudson Bay Territory, was purchased by the Dominion Government; and in the same year Manitoba, which had formed a part of this territory, was organized as a Province. Subsequently, other portions of this territory were organized as the *Districts of Keewatin, Assiniboia, Saskatchewan, Alberta, and Athabasca*.

66. British Columbia was admitted into the Dominion in 1871, and

Prince Edward Island in 1873. The Dominion thus includes the whole of the British possessions in the northern part of America except Newfoundland.

II. **Position.**—67. The Dominion of Canada is bounded on the north by the Arctic Ocean; on the east, by the Atlantic Ocean; on the south, by the United States; on the west, by the Pacific Ocean and Alaska.

The parallel of 49° N. forms the boundary between the Dominion and the United States from the Pacific Ocean to the Lake of the Woods; thence the line runs southerly, passing through the centre of Lakes Superior, Huron, Erie, and Ontario. It follows the St. Lawrence to the 45th parallel, from which the course becomes more irregular, and can be learned more easily from the map.

The meridian 141° W. is the boundary between Canada and Alaska from the Arctic Ocean to the neighborhood of Mount St. Elias; from which the line turns easterly, giving Alaska a narrow strip of coast as far south as the 55th parallel.

N. lat. 42°—72°; W. lon. 55° 30'—141°.

III. **Coast.**—68. The principal **coast waters** are, *Hudson Bay* and *Hudson Strait*, on the north; the *Gulf of St. Lawrence* and the *Bay of Fundy*, on the east; and the *Strait of Juan de Fuca*, *Queen Charlotte Sound*, and the *Gulf of Georgia*, on the west.

The **peninsulas** are, *Boothia, Melville, Labrador*, and *Nova Scotia*.

The **capes** are, *Bathurst, Chidley, Charles, Race, Sable*, and *Scott*.

The islands are, the *Arctic groups*, on the north; *Newfoundland*, *Anticosti*, *Magdalen Is.*, *Prince Edward*, and *Cape Breton*, on the east; *Vancouver* and *Queen Charlotte*, on the west.

IV. **Area.**—69. The Dominion of Canada comprises about three-eighths of North America.

The area of the Dominion is estimated to be 3,470,000 square miles; or it equals a square of 1863 miles.

V. **Surface.**—70. The eastern side of the Dominion is mostly **lowland**, traversed by low mountain ranges. The central part embraces the **northern slope of the central plain** of North America; and the western part belongs to the **western highlands**.

71. The highest mountains in the east are the *Notre Dame* in the Province of Quebec. A low range on the north of the St. Lawrence forms the water-shed separating the tributaries of the St. Lawrence from the streams that flow into Hudson Bay. In the west are the *Rocky Mountains* and the *Coast Mountains*, with broad, rugged table-land intervening. *Mount Brown* and *Mount Hooker* are among the highest peaks of the Rocky Mountains.

VI. **Rivers.**—72. The **largest rivers** of the Dominion are, the *Mackenzie* (*Peace*, *Athabasca*, *Slave*), *Coppermine*, *Great Fish*, *Chesterfield*, *Churchill*, *Saskatchewan*, *Assiniboine*, *Red River*, *Nelson*, *Severn*, *Albany*, *St. Lawrence* (*Ottawa*, *St. Maurice*, *Saguenay*), *St. John*, *Columbia*, *Fraser*, and *Simpson*.

VII. **Lakes.**—73. The **great lakes** *Superior*, *Huron*, *Erie*, and *Ontario*, are partly in the Dominion and partly in the United States.

74. On the northern slope are, *Rainy Lake*, *Lake of the Woods*, *Winnipeg*, *Manitoba*, and *Winnipegosis*, in the basin of rivers flowing into Hudson Bay; and *Deer Lake*, *Wolaston*, *Athabasca*, *Great Slave*, and *Great Bear Lakes*, in the basin of the Mackenzie. (See *North America*, 41, 42.)

75. The **St. Lawrence** and the **great lakes** form a grand system of waters, of the greatest importance to the commerce of the Dominion. The total length to the head of Lake Superior is over 2000 miles, and from Lake Ontario to the mouth of the St. Lawrence 750 miles. At its mouth the river is 40 miles broad. It is navigable for ships of the largest size to Quebec, 400 miles; and for vessels of 4000 tons to Montreal, 580 miles. Between Montreal and Lake Ontario are several rapids, the most important of which are *Cedar* and *Lachine Rapids*. The obstruction to navigation caused by the rapids is overcome by eight canals, varying in length from less than a mile to 11½ miles. The canals are not used in descending the river. The obstruction to navigation caused by the falls and rapids of the Niagara River is overcome by the *Welland Canal*, 28 miles in length, from Lake Ontario to Lake Erie. The rapids of the St. Mary are overcome by a short canal through United States territory.

76. Large vessels pass from the St. Lawrence through the *Richelieu River* and the *Chambly Canal* to Lake Champlain, which is connected with the Hudson River in the United States by the *Champlain Canal*.

77. With a break of forty or fifty miles at the north-west of Lake Superior, and several short portages at various places on account of rapids, a water-road for small boats is continued by way of *Rainy Lake*, *Rainy River*, *Lake of the Woods*, and the *Winnipeg River* to *Lake Winnipeg*, and thence by this lake and the *Saskatchewan* nearly to the Rocky Mountains.

78. **Lake of the Woods**, noted for its beautiful scenery, is about 70 miles in length. **Lake Winnipeg**, 240 miles long, is very irregular in form. Its shores are low and its waters muddy. **Lake Manitoba**, 125 miles long, is connected with Lake Winnipeg by the *Dauphin River*. **Lake Winnipegosis** is 125 miles in length.

VIII. **Climate.**—79. The climate varies from **temperate in the south** to **cold in the middle** and **frozen in the north**.

The cold is most severe in the north-east. The western coast is most humid. The western table-lands have little rain.

IX. **Minerals.**—80. Gold is obtained in British Columbia, Nova Scotia, and Quebec; silver, copper, salt, and petroleum in Ontario; coal in Nova Scotia, New Brunswick, British Columbia, and North-West Territory; iron in Nova Scotia, New Brunswick, and Quebec; nickel in Ontario.

X. and XI.—(See *various Provinces*.)

XII. **Inhabitants.**—81. The population of the Dominion is about 4,825,000.

The majority of the inhabitants are of British origin. Those of French origin are the most numerous in the Province of Quebec. Indians are scattered through all the provinces, and form the majority of the population of North-West Territory and British Columbia.

XIII. **Divisions.**—82. The Dominion includes the **Provinces** *Nova Scotia*, *New Brunswick*, *Prince Edward Island*, *Quebec*, *Ontario*, *Manitoba*, and *British Columbia*; and the **Territories** called *Keewatin*, *North-West Territory*, and *North-East Territory*.

	Area in Square Miles	Population in 1891	Capital
Nova Scotia	21,731	450,523	Halifax.
New Brunswick	27,322	321,204	Fredericton.
Prince Edward Island	2,133	169,088	Charlottetown
Quebec	188,000	1,488,586	Quebec.
Ontario	220,000	2,112,989	Toronto.
Manitoba	150,000	164,442	Winnipeg.
Assinibolia, Alberta, Saskatchewan, Athabasca, and North-West Territory, etc.	2,512,177	93,655	Regina.
British Columbia	341,300	92,767	Victoria.

XIV. **Towns.**—83. **Ottawa** (44,154), on the Ottawa River, 100 miles from its confluence with the St. Lawrence, is the capital of the Dominion.

The **Parliament House** at Ottawa is a magnificent building, occupying a beautiful situation on a natural terrace 150 feet above the level of the river. It is constructed of light-colored sand-

stone, and roofed with purple and green slate. The buildings cover nearly four acres of ground, and cost about \$4,000,000.

Montreal is the largest city, and **Quebec** is the oldest city, in the Dominion. The other leading cities are **Toronto**, **Hamilton**, **St. John**, **Halifax**, **London**, and **Kingston**.

XV. Industries.—84. The principal occupations are, agriculture, mining, fishing, lumbering, ship-building, manufacturing, and commerce.

The numerous excellent harbors of the maritime provinces afford every facility to foreign trade; whilst the St. Lawrence, great lakes, railroads, and canals open up a large part of the interior, and connect the principal cities.

Nova Scotia is noted for its coal-mines, its fisheries, and ship-building, and it has great facilities for trade, through its many excellent harbors; **New Brunswick** is noted for its forests, its fisheries, and its ship-building; **Prince Edward Island** has its chief resources in agriculture and fishing; **Quebec** exports large quantities of lumber and farm produce; **Ontario** is one of the finest agricultural countries in the world, and it also has immense wealth in its forests; **Manitoba** is an agricultural country; **British Columbia** is noted for its gold-mines and its forests.

Railways.—85. There are in the Dominion about 14,000 miles of railway. A continuous line extends across the continent from Halifax to Vancouver, a distance of about 3750 miles. The principal railways of Canada are, the *Canada Pacific*, extending from Montreal to Vancouver, 2906 miles; the *Grand Trunk*, from Point Levi to Sarnia, 780 miles; and the *Intercolonial*, from Point Levi to Halifax, 675 miles. These roads, with their branches and extensions, and the various shorter lines, connect all the principal towns in the Dominion.

86. The most important canals are in Ontario, by means of which the rapids of the St. Lawrence and other rivers are overcome.

87. The Dominion of Canada, in proportion to population, owns more shipping than any country in the world; and, in respect to tonnage, ranks after Great Britain, the United States, and France.

88. The principal exports are, lumber, grain, flour, animals and their products, fish, minerals, and manufactures. Total value, \$96,000,000.

The chief imports are, West India produce, manufactured goods from Great Britain and the United States, wine, branly, and tea. Total value, \$108,000,000.

XVI.—Government.—89. The government is similar to that of Great Britain. The *Governor-General* represents the Sovereign. His advisers or ministry, called the *Cabinet*, must be members of Parliament, and must possess the confidence of the Commons.

The **Parliament** is composed of the *Governor-General*, the *Senate*, and the *House of Commons*.

The **Governor-General** is appointed by the Crown, and receives a salary of \$50,000 from the Dominion treasury.

The **Senators** are appointed by the Governor-General in Council.

A senator must be over thirty years of age, possess property worth at least \$4000, and reside in his own province.

The members of the **Commons** are elected by the people for the term of five years. The number for each province is to be re-adjusted after each decennial census; the number for Quebec remaining at 65, and those for the other provinces bearing the same proportion to their population as 65 to the population of Quebec.

The **Senate** consists of 80 members—10 for Nova Scotia, 10 for New Brunswick, 4 for Prince Edward Island, 24 for Quebec, 24 for Ontario, 3 for Manitoba, 3 for British Columbia, and 2 for the Districts.

The **Commons** has 215 members—21 for Nova Scotia, 16 for New Brunswick, 6 for Prince Edward Island, 65 for Quebec, 92 for Ontario, 5 for Manitoba, 6 for British Columbia, and 4 for the Districts.

The Dominion Government has control over all matters of general interest, as defence, trade, fisheries, mails, and criminal laws. The **revenue**, which arises chiefly from duties on imports, excise, revenue from post-office and public works, is about \$40,000,000.

The **public debt** is about \$240,000,000.

90. Each province has a Lieutenant-Governor, appointed by the Governor-General in Council, and a local Legislature, which has control over education, crown lands, minerals, and various local matters.

EXERCISE I.

[MAP OF DOMINION.]

Point out and describe the coast waters, peninsulas, capes, islands, mountains, rivers, lakes, and divisions of the Dominion.

See Sections 68, 71, 72, 73, 74, and 82.

EXERCISE II.

Draw a map of the Dominion, marking coast waters, peninsulas, capes, islands, mountains, rivers, lakes, and divisions.

NOVA SCOTIA.

I. History.—91. The French began to colonize Nova Scotia in the year 1605, forming their first settlement at Port Royal.

The French called the country *Acadie*,—a name said to be derived from the *Micmacadie* or *kaddy*, signifying "abundance" or "abounding in," and often employed in that language as an affix in compound words. Thus *Shuben-acadie* signifies "abounding in ground nuts." The syllable *a* is merely a connective.

The name *Nova Scotia* was given to the country in 1621, when it was ceded by James I. of England to Sir William Alexander.

92. By the Treaty of Utrecht, 1713, Nova Scotia was finally ceded to Great Britain. It then included the territory which now forms New Brunswick and Prince Edward Island. The inhabitants consisted of Indians, and a few thousand French called *Acadians*. The first permanent British settlement was formed at Halifax in 1749.

93. The island of Cape Breton was ceded to Great Britain in 1763.

The French built a strong town on the south-east, named Louisburg. This town was taken by a British fleet in 1758. From 1784 to 1819 Cape Breton formed a separate province under a military government.

II. Position.—94. Nova Scotia is situated on the Atlantic, and forms the south-eastern extremity of Canada. It is separated from New Brunswick, on the north-west, by



HALIFAX.

the Bay of Fundy, except at the isthmus of Chignecto; and from Prince Edward Island by Northumberland Strait.

The Strait of Canso, 15 miles in length and about one mile in breadth, separates the Peninsula from the Island of Cape Breton. The Isthmus of Chignecto is about 12 miles broad.

N. lat. $43^{\circ} 25' - 47^{\circ}$; W. lon. $50^{\circ} 40' - 66^{\circ} 25'$.

III. **Form.**—95. The form of the Peninsula is triangular, the base being on the Atlantic, and the apex at the isthmus.

IV. **Coast.**—96. Nova Scotia has a great extent of sea-coast compared with its area, and no part of the interior is over 30 miles from the sea.

The harbors on the coasts are numerous; those on the Atlantic are noted for their superiority, and are generally open to navigation throughout the year.

97. The principal coast waters are,—

The *Bay of Fundy*, *Chignecto Bay*, *Cumberland Basin*, *Minas Channel*, *Minas Basin*, *Cobequid Bay*, *Bay Verte*, *Tatamagouche Bay*, *Pictou Harbour*, *St. George's Bay*, *Strait of Canso*, *Aspy Bay*, *St. Ann's Bay*, *Great Bras d'Or*, *Little Bras d'Or*, *Bras d'Or Lake*, *East Bay*, *West Bay*, *St. Patrick's Channel*, *Whykokomagh*, *Sydney Harbor*, *Cow Bay*, *Miré Bay*, *Gabarus Bay*, *St. Peter's Bay*, *Lennox Passage*, *Chedabucto Bay*, *Halifax Harbor* and *Bedford Basin*, *Margaret's Bay*, *Mahone Bay*, *St. Mary's Bay*, *Digby Strait or Gut*, and *Annapolis Basin*.

98. The Bay of Fundy is an arm of the Atlantic penetrating far inland between Nova Scotia and New Brunswick. Its shores are usually rocky and elevated, forming a great wall against the sea. Digby Strait is a singular break in this wall, opening like a gate into Annapolis Basin.

The head-waters of Cobequid Bay and Cumberland Basin are noted for their very high tides. (See *Physical Geography*, 90.)

Much of the coast on Minas Basin, Cobequid Bay, and Cumberland Basin is low, and the banks of the rivers for many miles up are below the level of high water.

The Strait of Canso is a great thoroughfare between the Atlantic and the Gulf of St. Lawrence.

99. The principal capes are,—

Split, *Blomidon*, *D'Or*, *Chignecto*, *Malagash*, *John*, *St. George*, *Mabou*, *St. Lawrence*, *North*, *Egmont*, *Enfumé*, *Dauphin*, *Aconi*, *Breton*, *Canso*, *Porcupine*, *Sumbro*, *Crown Point*, and *Sable*.

Blomidon, the eastern extremity of the North Mountain, is 450 feet high; *Porcupine*, on the Strait of Canso, 640 feet; *Cape North*, north of Cape Breton, 1100 feet; *Enfumé*, 2100 feet; and *Crown Point*, on the Atlantic coast, 500 feet.

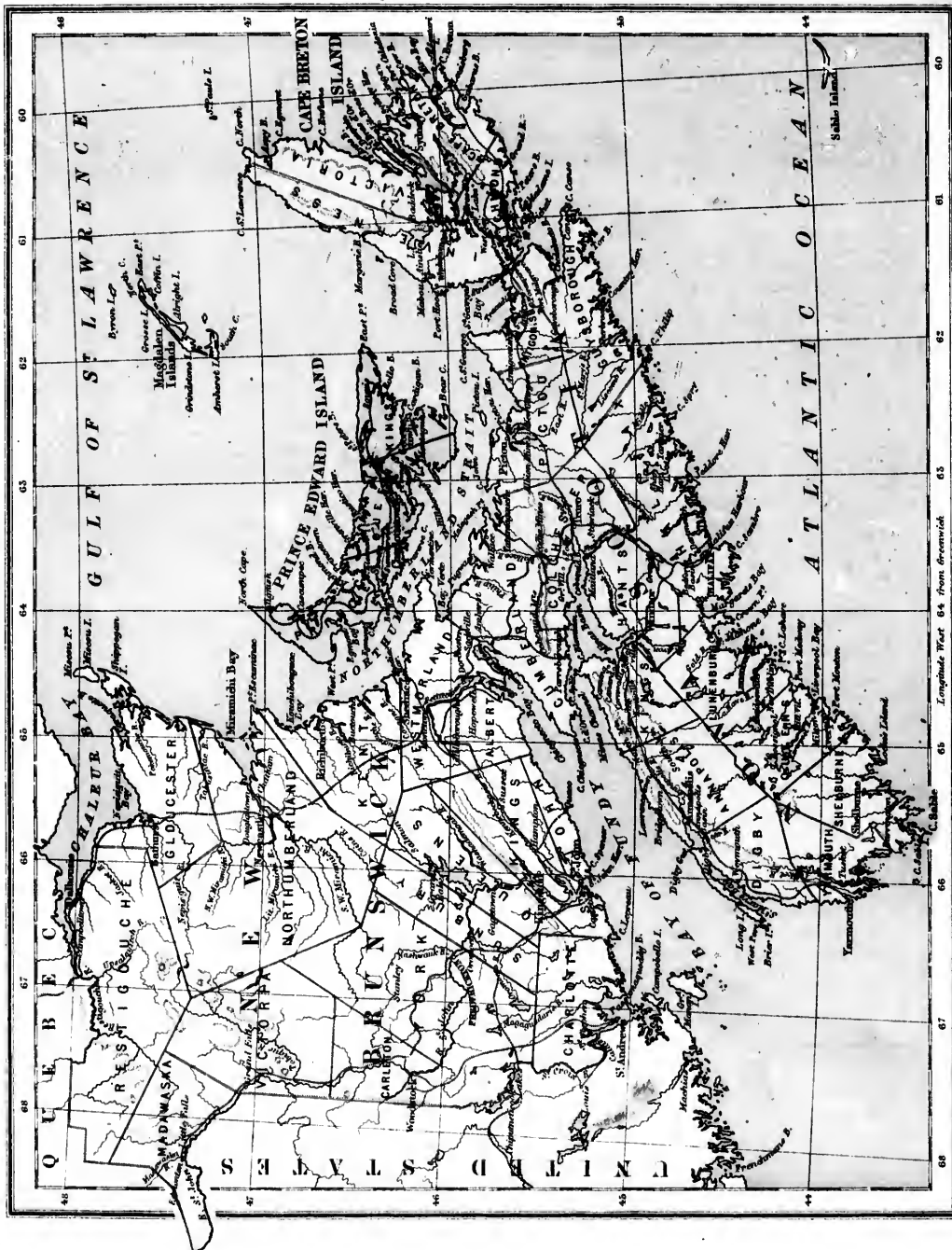
100. Small islands are numerous, especially on the Atlantic coast.

The more important islands are,—

Pictou Island, *St. Paul*, *Boularderie*, *Scatari*, *Madame*, *Cape Sable*, *Long Island*, *Brier Island*, and *Sable Island*.

101. *Pictou Island*, 8 miles from the mouth of Pictou Harbor, is 5 miles long. Population, 130.

NOVA SCOTIA, NEW BRUNSWICK & PRINCE EDWARD ISLAND.



strating far
shores are
at the sea.
like a gate

Basin are
(y, 90.)
and Cumber-
y miles up
between the

John, St.
me, Dau-
en Point,

ain, is 450
pe North,
and Crown

on the

Madame,
land.
Harbor,

n
n
n
P
k
sh
p
th
m
is
ar
hi
ru
sl
so
ce
of
Co
hi
ex
I
abc
ab
val
7
she
1
of
div
Por
Pre
v
nu
mo
The
&
wal
Ris
V
ticu
A
whi

102. **St. Paul's Island**, 13 miles from Cape North, is a dangerous rocky island.

103. **Boularderie**, between Great and Little Bras d'Or, is 25 miles in length.

Iale Madame, south of Cape Breton, contains about 75 square miles, and has a population of about 6000.

104. **Cape Sable Island**, 7 miles long and 3 miles broad, has a population of nearly 2000.

105. **Brier Island** is the most westerly part of the Province.

106. **Sable Island**, about 100 miles south of Cape Breton, is a low sandy island, with dangerous sand-shoals on the coast. It is about 25 miles in length and one mile in breadth. Herds of wild ponies roam over the island. An establishment is maintained on the island by the Dominion Government to succor the shipwrecked.

V. Area.—107. Nova Scotia has an area of 21,731 square miles; or it equals a square of 147 miles.

The Peninsula is about 260 miles in length; its extreme breadth is 100 miles; and its area is 17,355 square miles.

Cape Breton is 110 miles in length, and 90 miles in breadth. Its area is 4376 square miles.

VI. Surface.—108. Nova Scotia is varied with lowlands, hills, and low but regular mountain ranges. A water-shed runs through the middle of the Peninsula, from which the slopes are towards the north and south: much of the southern slope is rugged and rocky.

There are three low mountain ranges—

The **South Mountain**, forming the western portion of the central water-shed; the **North Mountain**, along the margin of the Bay of Fundy, from Blomidon to Digby Neck; the **Cobequid Mountains**, on the north of Cobequid Bay.

The mountains in the north of Cape Breton are the highest in the Province, but the most elevated peaks do not exceed half a mile in height.

109. The average height of the North and South Mountains is about 600 feet. The southern side of the North Mountain rises abruptly, and its verge presents many beautiful views of the fertile valley below, with its green fields and silvery winding streams.

The Cobequids are about 1100 feet high. They form a water-shed, with short slopes on the north and south.

110. The valley between the North and South Mountains is one of the most beautiful and fertile districts in the Province. It is divided into two gentle slopes. The early French settlement of Port Royal was at the western extremity; Canard and Le Grand Pré were at the eastern extremity of this valley, near Minas Basin.

VII. Rivers.—111. There are no large rivers. The numerous small streams form important harbors near their mouths. The longest rivers are about 50 miles in length. The principal are—

St. Mary's, La Have, Liverpool, Tusket, Annapolis, Cornwallis, Avon, Shubenacadie, Salmon, Philip, Wallace, East River of Pictou, and Margarie.

VIII. Lakes.—112. Small lakes are very numerous, particularly on the Atlantic slope.

Rossignol, Grand Lake, Ship Harbor Lake, and Ainslie, which are from 9 to 12 miles in length, are the largest lakes.

The lake system with which **Grand Lake** is connected is drained by the **Shubenacadie**, and also by a stream flowing southerly to **Halifax Harbor**.

IX. Soil.—113. On the north of the central water-shed the soil is generally very fertile. The southern side of the Province is not usually so well adapted to agricultural pursuits.

The intervalle soils along the margins of the rivers are very fertile, yielding large crops of hay. Most of the streams flowing into the head-waters of the Bay of Fundy are bordered along their lower course by marsh, which is protected from the sea by dikes.

X. Climate.—114. The climate of Nova Scotia is temperate and salubrious. The summer is hot; the winter is long, with much severe cold, and is remarkable for sudden changes of temperature.

The ground is covered with snow much of the time from the middle of December to the middle of March. Spring advances slowly. A chilly north-east wind, caused by ice in the Gulf of St. Lawrence, prevails in April and May. Vegetation, promoted by seasonable rains, is very rapid, there being only three or four months between seed-time and harvest. Autumn is a delightful season.

The extreme of heat is 95° above zero; of cold, 24° below; the mean annual temperature, 44°.

XI. Minerals.—115. The minerals of Nova Scotia are varied, and of great importance, including *coal, iron, gold, copper, manganese, lime, gypsum, salt, granite, sandstone, slate, and marble.*

116. **Coal-fields** are very extensive in the east and north. The most important mines are in Cape Breton, Pictou, and Cumberland. The total quantity raised annually is nearly 2,000,000 tons. The thickest coal seam known in the Province is at the *Albion Mines* in Pictou County, having an average thickness of 38 feet.

117. **Iron ore** of a superior quality is abundant. The only mine worked at present is on the south side of the Cobequid Mountains, in Colchester.

118. **Gold** is obtained from quartz found on the Atlantic slope. Several mines are worked in Guysborough, Halifax, and Hants Counties. The amount obtained annually is worth about \$390,000.

XII. Plants.—119. The **native forests** are yet extensive. The most important trees are pine, spruce, hemlock, beech, oak, maple, birch, and ash.

Oats, barley, rye, wheat, maize, potatoes, turnips, and hay are the most important **field crops**.

The principal **fruits** are apples, pears, and plums.

Wheat is most extensively cultivated in the eastern counties. Maize and apples are most abundantly raised in the valley between the North and South Mountains.

XIII. Animals.—120. The larger wild animals, as the *moose, cariboo, and bear*, are becoming less numerous. The *wild cat, fox, and raccoon* are among the smaller quadrupeds.

Horses, cattle, and sheep are numerous, and large dairies are kept in many parts of the country.

The coast waters teem with fish, including the *cod*, *halibut*, *shad*, *mackerel*, *salmon*, and *herring*.

XIV. Inhabitants.—121. The population in 1891 was 450,523. The inhabitants are generally of British and Irish descent.

The Acadians number about 20,000, found chiefly in the counties of Richmond, Digby, Yarmouth, Halifax, Antigonish, and Inverness; the Negroes 6000; and the Micmac Indians 1500. In Lunenburg County there are many of German origin.

122. The public schools are free to all over five years of age, and few countries can boast of a more perfect educational system.

The schools are sustained by provincial endowment, graded according to the class of teacher; county assessment, distributed according to average attendance; and sectional assessment.

123. There are five Colleges:—

King's, belonging to the Episcopalians; *Acadia*, to the Baptists; *Dalhousie*, provincial; *St. Mary's* and *St. Francis Xavier's*, to the Roman Catholics.

124. About one-fourth the population are *Roman Catholics*, one-fourth *Presbyterians*, one-sixth *Baptists*, one-seventh *Episcopalians*, and one-tenth *Wesleyans*. All religious denominations have equal civil privileges.

XV. Divisions.—125. Nova Scotia is divided into eighteen counties, fourteen in the Peninsula and four in Cape Breton.

The counties are subdivided into *townships*.

The following are the eighteen counties, with their chief towns. The county towns are in black letter:—

SIX COUNTIES ON THE ATLANTIC.

Counties.	Chief Places.
GUYSBOROUGH.....	Guysboro', Canso, Sherbrooke, Port Mulgrave.
HALIFAX.....	Halifax, Dartmouth, Bedford, Tangier.
LUNENBURG.....	Lunenburg, Chester, Bridgewater, New Dublin.
QUEEN'S.....	Liverpool, Port Medway, Milton, Mill Village.
SHELBUHNE.....	Shelburne, Barrington, Lockeport.
YARMOUTH.....	Yarmouth, Tusket, Hcbrou.

FOUR COUNTIES ON THE BAY OF FUNDY.

DIGBY.....	Digby, Weymouth, Westport, Bear River.
ANNAPOLIS.....	Annapolis, Bridgetown, Lawrencetown.
KING'S.....	{ Kentville, Wolfville, Port Williams, Canning, Berwick, Kingston.
HANTS.....	Windsor, Hantsport, Maitland, Shubenacadie.

FOUR COUNTIES IN NORTHUMBERLAND STRAIT.

CUMBERLAND..	{ Amherst, Pugwash, Wallace, Parrsboro', Spring Hill.
COLCHESTER...	{ Truro, Upper Stewiacke, Tatamagouche, Acadia Mines, Great Village, Folly Village.
PICTOU.....	Pictou, New Glasgow, Albion Mines, Stellarton.
ANTIGONISH.....	Antigonish, St. Andrew's, Tracadie.

FOUR COUNTIES IN CAPE BRETON.

INVERNESS.....	Port Hood, Mabou, Port Hawkesbury, Port Hast-
VICTORIA.....	Baddeck, English Town. [irs.]
CAPE BRETON.....	Sydney, North Sydney, Cow Bay, Louisburg.
RICHMOND.....	Arichat, Little Arichat.

XVI. Towns.—126. **Halifax** (38,556), the capital, is the only city in Nova Scotia. It has a large and safe harbor, and may be considered as the winter port of Canada. Halifax is strongly fortified. It is the chief British naval station in

America, and the only station in the Dominion for British troops. The finest buildings in the city are the *Province Building* or *Parliament House* and the *Post Office*. Halifax is the seat of *Dalhousie College* and *St. Mary's College*.

127. **Dartmouth**, an incorporated town, is prettily situated about a mile from Halifax, on the opposite side of the harbor. In its neighborhood is the Provincial Lunatic Asylum. (Pop. of town, 6245.)

128. **Lunenburg** has a large and safe harbor. It exports lumber and fish, and has considerable trade with the West Indies. **Liverpool** is engaged in lumbering, ship-building, and fishing.

Shelburne once had a population of 12,000, but has now less than 2000.

129. **Yarmouth** (6089), the largest town in the west, is noted for its ship-building, commerce, and general enterprise.

130. **Annapolis**, the *Port Royal* of the French, is the oldest town in Nova Scotia. **Digby** has a beautiful situation at the opposite end of Annapolis Basin.

131. **Wolfville** is the seat of Acadia College; **Windsor**, of King's College; **Truro**, of the Provincial Normal School; **Antigonish**, of St. Francis Xavier's College.

Pictou and **New Glasgow** are important commercial and ship-building towns. Large quantities of coal are shipped from Pictou harbor. **Spring Hill** is the centre of important coal-mines.

Sydney, the former capital of Cape Breton, has an excellent harbor, from which large quantities of superior coal are exported. **Arichat**, on Isle Madame, is the head-quarters of valuable fisheries.

XVII. Industries.—132. The principal pursuits are agriculture, fishing, mining, ship-building, lumbering, manufactures, and commerce. Nova Scotia ranks first among the Provinces of the Dominion in the value of its coal-mining and fisheries.

The counties north of the central water-shed are most extensively engaged in agriculture; the Atlantic counties and those of Cape Breton, in the fisheries. Ship-building is prosecuted on all the coasts. The value of the fish exported from Nova Scotia in 1879 was about \$4,500,000, nearly two-thirds of that from the whole Dominion.

133. The exports include fish, coal, gold, gypsum, potatoes, apples, ships, and lumber.

The imports include flour, tropical produce, liquors, silks, woollens, cottons, and various manufactured goods.

Railways.—134. The railways are, the *Intercolonial*, from Halifax to the New Brunswick frontier, 144 miles; the *Eastern Lines*, from Truro to Sydney, 214 miles; the *Western Lines*, from Windsor Junction to Yarmouth, 203 miles; the *Spring Hill and Parrsboro'*, 32 miles; the *Oxford and Pictou*, 69 miles; the *Joggins*, 13 miles; the *Nova Scotia Central*, 74 miles; and the *Cornwallis Valley Railway*, 14 miles.

XVIII. Government.—135. The local government is vested in a Lieutenant-Governor and an Executive Council.

The Legislature consists of the Lieutenant-Governor, a Legislative Council of 18 members, and a House of Assembly of 38 members, elected every four years.

The revenue arises from the sale of public lands, royalty on minerals, and an annual grant from the revenue of Canada.

QUESTION.—A vessel sails from Pictou to Wolfville: through what waters does it pass, and what freight will it probably carry?



ST. JOHN.

NEW BRUNSWICK.

I. History.—136. New Brunswick, once forming part of Nova Scotia as the County of Sunbury, became a separate Province in 1784. The first British settlements were formed about twenty years earlier. The population was largely increased at the close of the American Revolution by disbanded soldiers and Loyalists.

Some of the most flourishing early settlements were along the valley of the Miramichi, on the east. In 1825 this whole coast, including nearly one-fourth of the Province, was desolated by one of the most terrible fires on record. Five hundred persons lost their lives, and a vast amount of property was destroyed. (*See Nova Scotia*, 92.)

II. Position.—137. New Brunswick is bounded on the north by Quebec and Bay Chaleur; on the east, by the Gulf of St. Lawrence and Northumberland Strait; on the south, by Nova Scotia, Chignecto Bay, and the Bay of Fundy; on the west, by the United States and Quebec.

It is in the same latitude as the middle of France. N. lat. 45°—48°; W. lon. 63° 50'—69°.

III. Form.—138. The form is that of a four-sided figure, having its greatest length north and south.

IV. Coast.—139. Two sides, the east and the south, are bordered by the sea, giving 500 miles of coast, and furnish-

ing many excellent harbors. The coast on the Bay of Fundy is generally elevated and rocky.

The principal **coast waters** are,—

Chaleur Bay, Miramichi Bay, Kouchibouguac Bay, Shediac Harbor, Bay Verte, Chignecto Bay, Shepody Bay, Bay of Fundy, St. John Harbor, and Passamaquoddy Bay.

140. The **capess** are, *Escuminac, Tormentine, Spencer, and Lepreau.*

141. The **islands** are, *Miscou* and *Shippeyan*, at the mouth of Bay Chaleur; *Grand Manan*, in the Bay of Fundy; and *Campobello*, in Passamaquoddy Bay.

142. **Grand Manan**, the largest island in the Bay of Fundy, is about 20 miles long. It has good harbors and important fishing stations.

V. Area.—143. The area of New Brunswick is 27,322 square miles; or it is equal to a square of 165 miles.

The length from north to south is about 200 miles; the breadth from east to west, 160 miles.

VI. Surface.—144. The surface is generally undulating. The highest mountains are in the north-west, rising to the height of 2000 feet. They form the north-eastern limit of the Appalachian System.

The principal water-shed extends through the country from north-west to south-east, separating the streams which flow to the

Gulf of St. Lawrence and Northumberland Strait from the tributaries of the St. John.

The basin of the St. John has a general slope towards the south-east.

VII. Rivers.—145. The rivers may be arranged in two groups:—

Those on the Gulf slope, including the *Restigouche*, *Nepisiguit*, and *Miramichi*; those on the Bay of Fundy slope, the principal being the *Peticodiac*, *St. John*, and *St. Croix*.

146. *Restigouche* is an Indian name, signifying the *five-angled river*, the river having five principal tributaries. It forms a part of the boundary between New Brunswick and Quebec, and is about 200 miles in length. This river and its tributaries are noted for their salmon fisheries, and for the beautiful scenery along their course. *Dalhousie* and *Campbellton* are the principal towns on the *Restigouche*.

147. The *Miramichi*, 225 miles in length, flows through a fertile farming country. It is navigable for large ships 2 miles above *Newcastle*, and for small schooners 25 miles further. The *Miramichi* abounds in salmon and many other kinds of fish. Ship-building and lumbering are important industries along its shores. The principal places on its banks are *Nelson*, *Newcastle*, *Douglas-town*, and *Chatham*.

148. The *Peticodiac* is about 100 miles in length, and is navigable 25 miles for large vessels. It has rich marsh lands along its lower course. The principal places on its banks are, *Moncton*, *Hillsborough*, *Dorchester*, and *Hopewell*.

149. The *St. John* is by far the largest river in New Brunswick. It rises in the State of Maine, receives several tributaries from Quebec, and has a total length of about 450 miles. It is navigable 85 miles to *Fredericton*; and at the time of the spring freshet to *Grand Falls*, 225 miles. The *St. John* and *St. Croix* form portions of the boundary between New Brunswick and the United States.

The valley of the *St. John* is very fertile, and is noted for its beautiful scenery. At *Grand Falls* the river has a perpendicular descent of 75 feet. A large portion of the country drained by the *St. John* is covered with dense forests, and immense quantities of lumber are brought down the river in rafts.

The principal tributaries of the *St. John* are, the *Oromocto*, *Aroostook*, *Madawaska*, *Tobique*, *Nashwaak*, *Salmon*, *Washademoak*, and *Kennebecasis*. The principal places on the river are, *Woodstock*, *Fredericton*, *Oromocto*, *Gagetown*, *Kingston*, and *St. John*.

VIII. Lakes.—150. Small lakes are numerous. **Grand Lake**, about 30 miles in length and 5 miles in breadth, is the largest lake in the Province. It receives the waters of several rivers, the largest of which is the *Salmon River*, and has its outlet in the *Jemseg*, a short deep river.

IX. Soil.—151. The soil is generally very fertile, and well suited to agriculture. The extensive marshes and intervals along the rivers are among the richest lands in the world.

X. Climate.—152. The climate is subject to great extremes, but is very healthful. Winter sets in rather earlier than in Nova Scotia, and the cold is more intense and steady. The Bay of Fundy coast is subject to fogs in summer.

XI. Minerals.—153. The most important minerals are coal, iron, copper, manganese, plumbago, granite, antimony, lime, and gypsum.

Gypsum and **lime** are abundant and of good quality.

Plumbago is abundant near the city of *St. John*.

Red Granite of superior quality is obtained at *St. George*.

XII. Plants.—154. A large part of the country is still covered with forests, yielding excellent timber. The native trees include pine, spruce, juniper, cedar, oak, beech, maple, and birch. The forests are very beautiful in the autumn.

155. The **agricultural products** include the various kinds of grain, vegetables, and fruit of temperate climates.

XIII. Animals.—156. The wild animals are like those of Nova Scotia.

XIV. Inhabitants.—157. The population in 1891 was 321,294. Most of the inhabitants are of British and Irish origin. Those of French origin number about 45,000, principally in Gloucester, Kent, Westmoreland, and Madawaska Counties. The Indians belong to two tribes, *Micmacs* and *Milicetes*, about 1400 in all.

158. New Brunswick makes liberal provision for general education. The Provincial Normal School for preparing teachers is situated at *Fredericton*. The common schools are supported by provincial aid, county assessment, and district assessment, and are free to all. The Educational Department is under the control of a Chief Superintendent, aided by a Board of Education and County Inspectors.

The higher institutions of learning are, the **University of New Brunswick**, at *Fredericton*; **Mount Allison College**, at *Sackville*; and **St. Joseph's College**, at *Memramcook*, belonging to the Roman Catholics.

XV. Divisions.—159. New Brunswick is divided into fifteen counties:—

FIVE COUNTIES ON THE EAST COAST.

Counties.	Chief Places.
RESTIGOUCHE.....	Dalhousie , Campbellton ,
GLOUCESTER.....	Bathurst .
NORTHUMBERLAND.....	Newcastle , Chatham , Douglas-town .
KENT.....	Richibucto , Buctouche .
WESTMORELAND.....	Dorchester , Moncton , Shediac , Sackville .

THREE COUNTIES ON THE SOUTH COAST.

ALBERT.....	Hopewell , Hillsboro' .
ST. JOHN.....	St. John , Carleton .
CHARLOTTE.....	St. Andrew's , St. Stephen .

THREE COUNTIES IN THE INTERIOR.

KING'S.....	Kingston , Hampton , Sussex .
QUEEN'S.....	Gagetown .
SUNBURY.....	Oromocto .

FOUR COUNTIES IN THE WEST.

YORK.....	Fredericton , Stanley .
CARLETON.....	Woodstock .
VICTORIA.....	Andover , Grand Falls .
MADAWASKA.....	Edmundton .

XVI. Towns.—160. **Fredericton** (6502) is the capital; **St. John** (39,179) is the principal city.

Fredericton is beautifully situated on the **St. John River**, 84 miles from its mouth. Its most important buildings are, *the Legislative Building, Government House, the University, the Normal School, the City Hall, and the Cathedral.*

161. **St. John**, on a rocky peninsula at the mouth of the **St. John**, has a fine harbor open at all seasons. Large quantities of lumber and lime are exported from **St. John**. **Carleton**, on the opposite side of the harbor, forms part of **St. John City**, and is connected with it by a suspension bridge. It contains the **Lunatic Asylum**. **Portland** now forms part of the city of **St. John**.

162. **Chatham** and **Newcastle**, on the **Miramichi**, are important places, extensively engaged in ship-building.

St. Stephen, on the **St. Croix**, and **St. Andrew's**, on **Passamaquoddy Bay**, are also important towns, engaged in the lumber trade, ship-building, and fisheries.

Sackville, near the head of **Cumberland Basin**, is the seat of **Mount Allison College** and **Female Seminary**.

Moncton (8765), on the **Peticodiac**, is the location of the head offices and principal workshops of the **Intercolonial Railway**.

XVII. Industries.—163. The principal employments are agriculture, lumbering, fishing, ship-building, manufacturing, and commerce.

164. Since the first settlement of the country, **lumbering** has formed a leading industry. The logs are generally brought down the rivers in rafts. The manufacture of sawn lumber gives employment to a large number of men.

165. The manufactures include woollens, cotton, leather, nails, and various kinds of hardware.

166. The principal exports are lumber, fish, and lime. The imports are flour, West India produce, manufactured goods, wine, and brandy.

167. The railways are, the *Intercolonial*, extending through the eastern side of the Province from **Nova Scotia** to **Quebec**, about 225 miles, with a branch from **Moncton** to **St. John**, 89 miles; the *St. John and Maine*, with branches to **Woodstock** and **St. Andrew's**; and the *New Brunswick*, from **Fredericton** to **Edmundton**.

XVIII. Government.—168. The local government is similar to that of **Nova Scotia**. The **Legislative Council** consists of 18 members, and the **House of Assembly** of 41 members. The Council is to be abolished in 1894.

PRINCE EDWARD ISLAND.

I. History.—169. **Prince Edward Island** was partially colonized by the French, under the name of **St. John's Island**. It was taken by the British in 1758, shortly after the capture of **Louisburg**, and was ceded to Britain in the **Treaty of 1763**. It was attached to the Government of **Nova Scotia** until 1770, when it became a separate Province. In 1800 the present name was given to the Island in honour of **Edward, Duke of Kent**.

Prince Edward Island was admitted as a Province of the Dominion in 1873.

170. A large part of **Prince Edward Island** was formerly owned by landlords resident in England. In 1875 an Act was passed compelling the proprietors to sell their lands at a price fixed by commissioners appointed for the purpose.

II. Position.—171. **Prince Edward Island** is on the south of the **Gulf of St. Lawrence**, and is separated from **Nova Scotia** and **New Brunswick** by **Northumberland Strait**.

It is 8 miles from **New Brunswick**, 15 miles from **Nova Scotia**, and 30 from **Cape Breton**. N. lat. 46°—47° 7'; W. lon. 62°—64° 21'.

III. Form.—172. The Island is crescent-shaped, having the concave side towards the **Gulf**. The south coast is parallel with the coast of **New Brunswick** and **Nova Scotia**.

IV. Coast.—173. There are numerous indentations on the coast. The most important are, *Richmond Bay, Cardigan Bay, Hillsboro' Bay, Bedeque Harbor, and Egmont Bay.*

Richmond Bay and **Hillsboro' Bay** divide the Island into three peninsulas. There are many good harbors.

174. The principal capes are, *North Cape, East Point, Bear Cape, Traverse Cape, Egmont, and West Point.*

A submarine telegraph crosses from **Cape Traverse** to **Tormentine** in **New Brunswick**. In winter, ice-boats run between these points. It is proposed to connect the Island with the mainland by a railway tunnel.

V. Area.—175. **Prince Edward Island** has an area of 2133 miles—equal to a square of 46 miles. Extreme length, 130 miles; breadth, 34 miles.

VI.-IX.—176. The surface is gently undulating. The most hilly portion is near the middle. The general watershed extends east and west.

177. The streams are small, but often have deep estuaries, which are important to navigation. The principal rivers are, *Montague, Hillsboro', Dunk, and Ellis*. There are many small lakes.

178. The soil is generally a sandy loam, free from stones, and well suited to agriculture.

179. The climate is temperate and healthful. The extremes of heat and cold are not quite so great as in **New Brunswick**. The Island is usually shut in by ice from the end of **December** till the end of **March**.

X.-XII.—180. No minerals of importance have been discovered.

181. The principal agricultural products are wheat, oats, barley, potatoes, and turnips.

182. The animals are similar to those of **Nova Scotia**, but the moose, cariboo, raccoon, and porcupine are not found on the Island.

XIII. Inhabitants.—183. The population in 1891 was 109,088. The inhabitants are mainly descendants of British and Irish colonists.

The inhabitants of French origin are estimated at 10,000. There are about 350 Indians.

184. About three-sevenths of the population are Roman Catholics. Presbyterians are more numerous than all other Protestants combined. Good provision is made for general education. Free schools were established in 1852. Teachers are trained at the Normal School, Charlottetown. There are also two Colleges at Charlottetown.

XIV. Divisions.—185. The Island is divided into three counties—*Kings, Queens, and Prince*. The counties are subdivided into *parishes*:—

Counties.	Chief Places.
KINGS.....	Georgetown, Souris, Montague.
QUEENS.....	Charlottetown, Pownal, Belfast.
PRINCE.....	St. Eleanor, Summerside, Princetown, Tignish, Alberton.

The Island is also divided into sixty-seven *lots* or *townships*, which are numbered from 1 to 67.

XV. Towns.—186. **Charlottetown** (11,374), the capital of the Island, has a fine harbor at the confluence of East, North, and West Rivers. Its main streets are 100 feet in breadth. The city has four public squares, on one of which stands the Legislative Building, a handsome stone edifice.

187. **Summerside** (2000), on Bedeque Harbor, 40 miles west of Charlottetown, is the second town in population and trade. It exports large quantities of agricultural produce and oysters. **St. Eleanor**, a small village near Summerside, is the shire-town of Prince County.

188. **Georgetown** (1000), 30 miles east of Charlottetown, has a fine harbor and a large trade in farm produce.

189. **Tignish** is an important fishing-station in the north-west. **Souris** is in the north-east.

XVI. Industries.—190. The chief pursuits are *agriculture, fishing, lumbering, ship-building, and commerce*.

191. The principal **exports** are oats, potatoes, dairy produce, horses, pork, oysters, and fish.

192. A **railway** extends from Tignish to Souris, 167 miles, with branch lines to Charlottetown and Georgetown, making about 200 miles in all.

XVII. Government.—193. The government is vested in a Lieutenant-Governor and a responsible Executive Council.

The Legislature consists of the Governor, a Legislative Council of 12 members, and an Assembly of 30 members.

Both the Legislative Council and the Assembly are elected by the people—the former for eight years, the latter for four years.

EXERCISE I.

[MAP OF MARITIME PROVINCES.]

Point out and describe the coast waters, capes, islands, mountains, rivers, lakes, counties, and towns of Nova Scotia, New Brunswick, and Prince Edward Island.

See Sections 97, 99, 100, 108, 111, 112, 125, 139, 140, 141, 145, 150, 159, 173, 174, and 185.

EXERCISE II.

Draw a map of the maritime provinces, marking coast waters, capes, islands, mountains, rivers, lakes, counties, and towns.

QUEBEC.

I. History.—194. This Province was formerly called Lower Canada; it received its present name in the constitution of union in 1867.

The Province of Quebec was called by its present name from 1763 to 1791.

Cartier, a French admiral, sailed up the St. Lawrence in 1535. The first colony was established by Champlain, also a Frenchman, in 1608, where the city of Quebec now stands; and during the succeeding century and a half many colonists from France settled along the banks of the St. Lawrence.

195. Whilst held by the French, the territory now included in the Provinces of Quebec and Ontario formed one colony under the name of Canada, sometimes also called New France. In 1759, the British took the principal places, including the strongly fortified town of Quebec, which was regarded as the key to the whole country. In 1763, France ceded the country to Great Britain.

At the commencement of the American Revolution an invading army from the revolting colonies was sent into the Province of Quebec, but was soon compelled to retreat.

196. In 1791, the country was divided into the Provinces of Upper and Lower Canada. In 1840, by Act of the British Parliament, these Provinces were reunited into one Province. For several years previous to this union the country had been distracted by political contests, which resulted in a civil war of short duration (1837-1838).

II. Position.—197. The Province of Quebec lies on both sides of the St. Lawrence, from a short distance above the mouth of the Ottawa to the Gulf. It is bounded on the north by North-East Territory and Labrador; on the east by the Gulf of St. Lawrence; on the south by Bay Chaleur, New Brunswick, and the United States; on the west by Ontario.

The Ottawa separates Quebec and Ontario, except for a few miles near its mouth, where Quebec crosses the river and includes the right bank.

N. lat. 45°-53°; W. lon. 57°-79°.

III. Form.—198. The form is triangular, with one side on the north, one on the south-east, and one on the south-west.

s, islands,
Nova Scotia,

140, 141,

ing coast
nties, and

ly called
constitu-

from 1763

e in 1535,
renchman,
g the suc-
ce settled

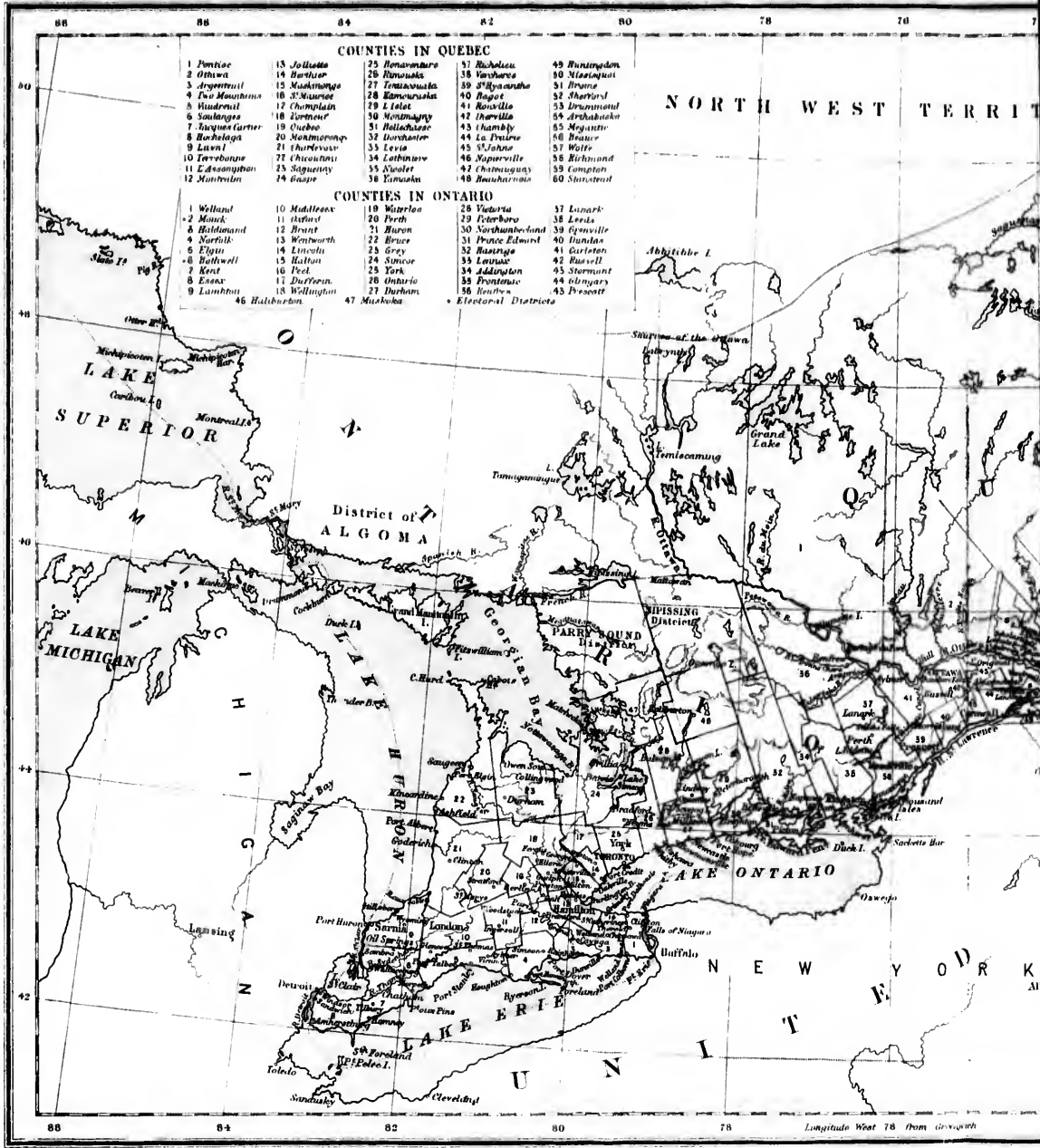
cluded in
under the
1759, the
y fortified
he whole
itain.
invading
ovince of

vinces of
sh Parlia-
or several
acted by
duration

on both
bove the
on the
the east
Chaleur,
west by

or a few
includes

ne side
south-



COUNTIES IN QUEBEC

- | | | | | |
|-------------------|----------------|-----------------------|-----------------|---------------|
| 1 Pontiac | 13 Joliette | 25 Beauport | 37 Richelieu | 49 Roussillon |
| 2 Ottawa | 14 Berthier | 26 Rimouski | 38 Verchères | 50 Missisquoi |
| 3 Drummond | 15 Maskinonge | 27 Trois-Rivières | 39 St-Hyacinthe | 51 Beauce |
| 4 Two Mountains | 16 St-Maurice | 28 Edmundston | 40 Rivière | 52 Sherbrooke |
| 5 Hudon | 17 Champlain | 29 L'Islet | 41 Rouville | 53 Drummond |
| 6 Soulanges | 18 L'Orignal | 30 Montmagny | 42 Thérèse | 54 Arthabaska |
| 7 Jacques-Cartier | 19 Outaouais | 31 Bellefleur | 43 Mégantic | 55 Montmagny |
| 8 Beauceville | 20 Montmorency | 32 Dorchester | 44 La Prairie | 56 Beauce |
| 9 Lével | 21 Charlevoix | 33 Les Trois-Rivières | 45 St-John | 57 Wolfe |
| 10 Two-Rivers | 22 Charlevoix | 34 L'Assommoir | 46 Kapuskasing | 58 Richmond |
| 11 L'Assommoir | 23 Saguenay | 35 Kivik | 47 Châteauguay | 59 Compton |
| 12 Montcalm | 24 Gaspé | 36 Kamouraska | 48 Beauharnois | 60 Steadfast |

COUNTIES IN ONTARIO

- | | | | | |
|-------------|---------------|-------------|-------------------|--------------|
| 1 Welland | 10 Middlesex | 19 Waterloo | 28 Victoria | 37 Lincoln |
| 2 Monk | 11 Oxford | 20 Perth | 29 Peterboro | 38 Leeds |
| 3 Hamilton | 12 Brant | 21 Huron | 30 Northumberland | 39 Grenville |
| 4 Norfolk | 13 Wentworth | 22 Bruce | 31 Prince Edward | 40 Dundas |
| 5 Elgin | 14 Lincoln | 23 Grey | 32 Hastings | 41 Carleton |
| 6 Haldimand | 15 Halton | 24 Simcoe | 33 Lanark | 42 Russell |
| 7 Kent | 16 York | 25 York | 34 Adairton | 43 Stormont |
| 8 Essex | 17 Dufferin | 26 Ontario | 35 Frontenac | 44 Elgin |
| 9 Lambton | 18 Wellington | 27 Durham | 36 Renfrew | 45 Prescott |

Electoral Districts

NORTH WEST TERRITORY

District of ALGOMA

PARRY SOUND DISTRICT

LAKE ONTARIO

LAKE ERIE

NEW YORK

OHIO

Longitude West 78 from Greenwich
English Miles
Scale of 63 Miles to an Inch
One Square Inch comprises 4 times the area of 100

QUEBEC AND ONTARIO

VI



Longitude West 16 From Greenwich 74 72 70 68 66 64

English Miles
 20 40 60 80 100
 Scale of 88 Miles to an Inch
 One Square Inch comprises 4 times the Area of One 84 Inch of Map 1



IV. Coast.—

St. Lawrence and
It is blocked
suspended for s

The principal b
The capes are,
Point, Tourment,

200. The isla
Magdalen Is., in th
Coudres, Orleans
rence; and *Cal*

201. *Anticosti*
shores are low an
potatoes, and tur
the chief pursuits
population is abou

202. *Magdalen*
Breton. *Coffin's*
in length. *Amh*
habitants are chic

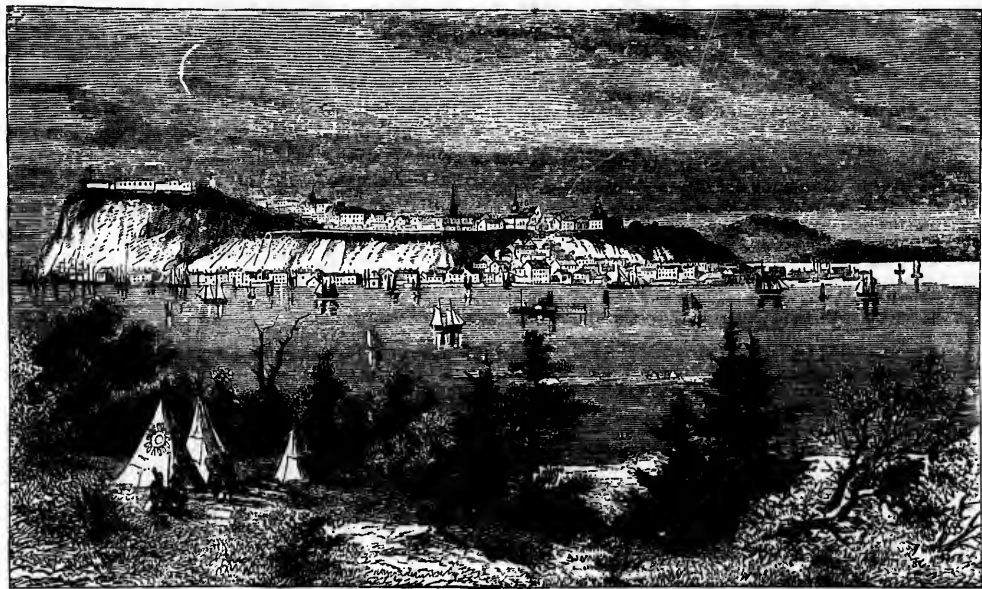
the cod and herring

203. *Bic* is not
hundred Micmac

204. *Orleans* is

breadth. The isla

fruit.



QUEBEC.

IV. **Coast.**—199. The coast is confined to the Gulf of St. Lawrence and Bay Chaleur, on the north-east.

It is blocked with ice in the winter, so that navigation is suspended for several months in the year.

The principal bays are, *Chaleur, Mal, and Gaspé.*

The capes are, *Point St. Peter, Cape Gaspé, Point de Monts, West Point, Tourment, and Diamond.*

200. The islands are, *Anticosti, Bonaventure, and Magdalen Is.,* in the Gulf of St. Lawrence; *Bic, Verte, Aux Coudres, Orleans, Montreal, Jesus, and Perrot,* in the St. Lawrence; and *Calumet and Allumette,* in the Ottawa River.

201. *Anticosti* has an area of 2600 square miles. The southern shores are low and dangerous. The climate is severe. Barley, potatoes, and turnips are cultivated. Seal-hunting and fishing are the chief pursuits. Near the south coast is a large peat-bog. The population is about 250.

202. *Magdalen Islands* are situated about 50 miles north of Cape Breton. *Coffin's Island,* the largest of the group, is about 25 miles in length. *Anherst Island* has the principal harbor. The inhabitants are chiefly of French origin. Their chief dependence is the cod and herring fisheries and seal-hunting. Population, 3170.

203. *Bic* is noted as the scene of the massacre of about two hundred Micmac Indians by the Iroquois two centuries ago.

204. *Orleans* is 20 miles in length and about 6 miles in extreme breadth. The island is very fertile, yielding grain, vegetables, and fruit.

205. *Montreal Island,* at the mouth of the Ottawa, is 32 miles long and 10 miles in extreme breadth. The soil is very fertile. *Mount Royal* is a beautiful hill near the city of Montreal.

Jesus Island is over 20 miles in length.

V. **Area.**—206. The area of Quebec is 188,000 square miles; or it equals a square of 434 miles.

VI. **Surface.**—207. The surface is considerably diversified, but not mountainous. The principal mountains are two ranges in the north-east, along the lower course of the St. Lawrence, one on each side of the river.

208. The ridge on the south side of the river, belonging to the Appalachian System, continues through the peninsula of Gaspé, where it is known as the *Notre Dame.* Some of the peaks are nearly 4000 feet high.

On the north of the river are the *Laurentide Hills,* extending from the Gulf to Cape Tourment, 20 miles below the city of Quebec. From this point the range strikes north-westerly towards Lake Superior. These hills often present a bold appearance along the river. Cape Tourment is 2000 feet high.

VII. **Rivers.**—209. The principal rivers of Quebec are the *St. Lawrence* and its tributaries. By means of these rivers the interior is, during the summer months, open to the commerce of the world. The St. Lawrence forms several lakes in Quebec, as *St. Francis, St. Louis, and St. Peter.* The

largest tributaries are on the north. The *Ottawa*, *St. Maurice*, and *Saguenay* are the most important. The principal tributaries on the south are the *Richelieu*, *St. Francis*, and *Chaudière*. (See *North America*, 31.)

210. The *Ottawa* is about 800 miles in length. Falls and rapids are numerous along its course. By the help of canals the river is navigable to Ottawa City, 100 miles. *Chaudière Falls*, near Ottawa, have a descent of 60 feet, and a breadth of over 200 feet. There are several lakes in the basin of the *Ottawa*. *Temiscaming*, 70 miles long, is the largest. The valley of the *Ottawa* has vast resources in its timber, minerals, soil, and water-power. The principal tributaries from Quebec are the *Gatineau*, *Du Lièvre*, *Du Nord*, and *L'Assomption*.

211. The *St. Maurice* forms many lakes and waterfalls; its banks are generally elevated; and after a course of over 400 miles, a large part of which is through a forest country, it enters the *St. Lawrence* by three mouths. The *Falls of Shawanegan*, 30 miles from Three Rivers, have a descent of 125 feet.

212. The *Saguenay* is about 400 miles in length, and it enters the *St. Lawrence* about 120 miles below Quebec City. About 100 miles from its mouth it forms a large expansion called *Lake St. John*. Navigation in the upper part of the river is obstructed by falls. The lower part of the river is noted for its great depth, and for the grandeur of the scenery along its banks. Precipitous rocks rise from 500 to 1500 feet above the water. The village of *Chicoutimi* is at the head of navigation. Ten miles below this place the river recedes, forming a beautiful basin called *Ha-Ha Bay*. *Tadoussac* is a noted watering-place at the mouth of the river.

213. The *Montmorency*, flowing into the *St. Lawrence* a little below Quebec, is noted for the falls near its mouth, the water falling 250 feet.

The *Richelieu*, 75 miles long, flows from *Lake Champlain*, and enters the *St. Lawrence* at Lake St. Peter.

VIII. **Lakes.**—214. Lakes are very numerous. (See *Rivers*, 209.)

The most important on the south of the *St. Lawrence* are, *Memphremagog*, *Megantic*, and *Temiscouata*. The northern extremity of *Champlain* is in the Province of Quebec.

215. *Memphremagog*, about 30 miles in length, is partly in Vermont State. The scenery around the lake is very beautiful. Well cultivated farms lie along the eastern shores; on the west are high mountains.

216. *Temiscouata* is the source of the *Madawaska River*. *Megantic* is the source of the *Chaudière*.

IX. **Soil.**—217. The soil in the east is not well adapted to agriculture; in the west it is fertile, and suited to the growth of grain, vegetables, and fruit.

X. **Climate.**—218. The climate in the Province of Quebec is subject to greater extremes than in Ontario. The winter is long, with steady, severe cold. Deep snow protects the ground, and affords a pleasant mode of travelling. The *St. Lawrence* is frozen for about five months. The summer is hot, and vegetation is rapid. The climate is healthful.

XI. **Minerals.**—219. The principal minerals are gold, copper, iron, lead, lime, and slate.

Gold is found chiefly along the *Chaudière*; copper in the Eastern Townships. Iron is abundant in various places.

XII. **Plants.**—220. The settled portion of this Province is principally a narrow country along the valley of the *St. Lawrence*. Beyond, covering the greater portion of the Province, are vast forests of pine, spruce, cedar, ash, maple, birch, elm, butter-nut, and other trees.

The agricultural products consist of the various kinds of grain, vegetables, and fruit raised in the other provinces.

XIII. **Animals.**—221. The wild animals are the deer, bear, wolf, beaver, otter, fox, and other fur-bearing animals.

XIV. **Inhabitants.**—222. The population in 1891 was 1,488,586. Nearly three-fourths are of French origin. Those of British descent are more numerous in the Eastern Townships.

About six-sevenths of the population are Roman Catholics. The Church of England ranks second in respect to numbers, and the Presbyterian Church third.

The Indians of the Province of Quebec belong to various tribes. In 1871 the total number was 8657.

223. Common schools, academies, and colleges are numerous. Roman Catholics and Protestants have separate schools. There are three Normal Schools sustained by the Province—two at Montreal, and one at Quebec.

224. The most noted institutions of learning in the Province are, *McGill College* in Montreal; *Laval College* in Quebec; and *Bishop's College* at Lennoxville.

XV. **Divisions.**—225. The Province of Quebec is divided into sixty-one counties:—

SIX COUNTIES ON THE OTTAWA.

Counties.	Chief Places.
PONTIAC	Bryson, Portage du Fort.
OTTAWA	Aylmer, Hull.
ARGENTEUIL	Lachute, St. Andrews.
TWO MOUNTAINS	St. Scholastique, St. Eustache.
VAUDREUIL	Vaudreuil.
SOULANGES	Coteau Landing.

TWO COUNTIES ON MONTREAL ISLAND.

JACQUES CARTIER	Lachine, Pointe Claire.
HOCHELAGA	Montreal, Longue Pointe.

ONE COUNTY ON ISLES JESUS AND BIZARRE.

LAVAL	Ste. Rose, St. Vincent de Paul.
-------------	---------------------------------

FOURTEEN COUNTIES NORTH OF THE ST. LAWRENCE.

TERREBONNE	St. Jerome, Terrebonne, Ste. Therese.
L'ASSOMPTION	L'Assomption.
MONTCALM	St. Julien, Rawdon.
JOLLIETTE	Joliette.
BERTHIER	Berthier.
MASKINONGE	Rivière du Loup.
ST. MAURICE	Three Rivers, Yamachiche.
CHAMPLAIN	Batiscan, St. Anne.
PORTNEUF	Cap Santé, Portneuf.
QUEBEC	Quebec.
MONTMORENCY	Chateau Richer.
CHARLEVOIX	St. Paul's Bay, St. Irène.
CHICOUTIMI	Chicoutimi.
SAGUENAY	Tadoussac.

THIRTY-EIGHT COUNTIES SOUTH OF THE ST. LAWRENCE.

Counties.	Chief Places.
GASPE	Percé.
BONAVENTURE	New Carlisle.
RIMOUSKI	Rimouski, Metis, Bic.
TEMISCOUATA	Isle Verte, Rivière du Loup, Cacouna.
KAMOUBASKA	Kamouraska.
L'ISLET	St. Jean, Port Joli, L'Islet.
MONTMAGNY	St. Thomas.
BELLECHASSE	St. Michel.
DORCHESTER	Sts. Hénédine, St. Anselme.
LÉVIS	Point Lévis.
LOTBINIÈRE	Lotbinière, St. Croix.
NICOLET	Bécancour, Nicolet.
YAMASKA	St. François, Yamaska, La Baie.
RICHELIEU	Sorel, St. Ours.
VERCHÈRES	Verchères.
ST. HYACINTHE	St. Hyacinthe.
BAGOT	St. Hugues.
ROUVILLE	Mariville.
IBREVILLE	St. Athanase.
CHAMBLÉ	Chambly, Longueil.
LA PRAIRIE	La Prairie, Caughnawaga.
ST. JOHN'S	St. John's.
NAPIERVILLE	Napierville, St. Rémi.
CHATEAUGUAY	St. Martin, Chateauguay.
BEAUHARNOIS	Beauharnois.
HUNTINGDON	Huntingdon.
MISISSIQUOI	Frelighsburg, Bedford.
BROME	Knowlton.
SHEFFORD	Waterloo.
DRUMMOND	Drummondville.
ARTHABASKA	St. Christophe.
MEGANTIC	Leeds, Inverness.
BÉAUCE	St. François, La Béauce.
WOLFE	Dudswell.
RICHMOND	Richmond.
COMPTON	Cookshire, Compton.
SHERBROOKE	Sherbrooke.
STANSTEAD	Stanstead, Coaticook.

The last twelve are usually called the *Eastern Townships*. Most of the English-speaking inhabitants of the Province live in the Eastern Townships and in the cities.

XVI. Towns.—226. **Quebec** (63,090), the capital of the Province, is on the left or northern bank of the St. Lawrence, 400 miles from its mouth, occupying the triangular ground at the confluence of the St. Lawrence and the St. Charles Rivers. The city consists of the *Upper Town*, on the summit of a promontory, and the *Lower Town*, adjoining the river, where the chief commerce is carried on.

The Upper and Lower Towns are connected by two or three steep winding streets, and by a flight of broad, wooden steps. Quebec is one of the most strongly fortified cities in the world. The Citadel stands on Cape Diamond, which rises 333 feet above the river. The lumber trade and ship-building are the most important branches of business. Immense rafts of timber are brought down the Ottawa and St. Maurice Rivers, and stored in coves along the St. Lawrence near Quebec. The city has many objects of interest. Near the Upper Town are the *Plains of Abraham*, the battle-ground of 1759. About eight miles below the city are the celebrated *Falls of Montmorency*. Among the important public buildings of Quebec are

the *Parliament Buildings*, the *Roman Catholic Cathedral*, *Laval University*, and the *Ursuline Convent*.

227. **Montreal** (216,650), the commercial capital of the Dominion, is situated on Montreal Island, in the St. Lawrence, 580 miles from its mouth. The city stands at the head of ship navigation, and much of the produce of the surrounding country and of the Province of Ontario is brought here for exportation. Montreal is built largely of limestone. It has many fine public buildings, among which are the *City Hall*, *Custom House*, *Bonsecours Market*, *McGill University*, *Notre Dame Cathedral*, which is capable of holding 10,000 people, and *St. Peter's Cathedral*, 300 feet long and 225 feet wide. The manufactures of Montreal are important, including hardware, cotton and woollen goods, glass, and india-rubber goods. Near the city is the stupendous *Victoria Bridge*, by which the Grand Trunk Railway crosses the river. It is nearly a mile and a half in length, and is 60 feet high in the centre, allowing vessels to pass under it.

228. **Three Rivers** (8334), at the threefold mouth of the St. Maurice, is an old French town, 90 miles above Quebec. Its iron works and lumber trade are important.

229. **St. Hyacinthe** (7061), on the Grand Trunk Railway, 35 miles from Montreal, has important manufactures in wood, iron, leather, and wool. It is the seat of St. Hyacinthe College.

230. **Point Lévis** (7301), on the south shore of the St. Lawrence, opposite the city of Quebec, manufactures lumber, and has an extensive trade. On a high plateau near the town are three strong forts built for the defence of Quebec.

231. **Sherbrooke** (10,110) manufactures cottons, woollens, and hardware.

232. **Cacouna**, on the south shore of the St. Lawrence, 131 miles below Quebec, is a fashionable watering-place, to which thousands of people resort during the hot summer months.

233. **Longueuil, Sorel** (6669), at the mouth of the Richelieu, Hull (11,266), a manufacturing town opposite Ottawa, Rimouski, a watering-place and river-port on the St. Lawrence, are important towns.

XVII. Industries.—234. The principal pursuits are agriculture, lumbering, fishing, ship-building, manufacturing, and commerce.

Immense quantities of lumber are brought down the rivers, in rafts, to Montreal and Quebec for exportation.

The exports are lumber, agricultural and dairy produce, fish, furs, ashes, boots and shoes, rubber goods, tweeds, and various manufactured goods.

The imports are woollens, cottons, silks, iron, coal, tropical produce, and various manufactured goods.

Railways.—235. The principal railways in Quebec are, the *Intercolonial*, the *Grand Trunk*, and the *Canada Pacific*. The *Intercolonial* extends from the eastern borders to Lévi, opposite Quebec city. The *Grand Trunk* forms a continuation of the *Intercolonial* from Lévi to the western limits of the Province. A line also runs from Montreal to Portland, in the United States. The *Canada Pacific* connects Montreal and Quebec (172 miles). Other lines extend westerly to Toronto and Ottawa, and easterly through Main to New Brunswick.

XVIII. Government.—236. The Government is similar to that of Nova Scotia and New Brunswick.

The Legislative Council consists of 24 members, and the Assembly of 73.

EXERCISE.—Find the distance between Quebec and Fredericton. When it is noon at Montreal, what is the time at Charlottetown?



TORONTO.

ONTARIO.

I. History.—237. Ontario is the wealthiest, the most populous, and, with the exception of British Columbia, the largest Province of the Dominion. Its growth has been very rapid. About one hundred years ago it was nearly all forest land, and, except in the neighborhood of the old French forts, scarcely a white man was found in the whole country. It then formed a part of the Province of Quebec. Amongst the early settlers were many **United Empire Loyalists**, who had been driven from the United States during the War of Independence on account of their loyalty to Great Britain. Coming entirely destitute, as all their property had been confiscated, they received free grants of land and supplies from the British Government.

238. Ontario became a **separate Province**, under the name of **Upper Canada**, in 1791; in 1840 it was reunited to Quebec, the two forming the Province of Canada until the organization of the Dominion in 1867.

By the settlement of the boundary question in 1878 the limits of the Province were extended northerly to James Bay, and westerly to Lake of the Woods.

II. Position.—239. The Province of Ontario is situated on the north of the St. Lawrence and the Great Lakes and

on the west of Quebec, the Ottawa River for the most part forming the boundary between the two Provinces.

Ontario extends westerly to the west shore of the Lake of the Woods. The English River, the Albany, and the intervening lakes form the boundary between this Province and Manitoba and Keewatin.

N. lat. 42°—52°; W. lon. 74°—95°.

III. Area.—240. Ontario has an area of 220,000 square miles; or it equals a square of 470 miles.

IV. Surface.—241. The surface is level or gently undulating, without any elevations which can properly be called mountains.

A ridge extends westerly from Niagara River, and, trending around the head of Lake Ontario, runs northerly to Nottawasaga Bay, and through the peninsula between Georgian Bay and Lake Huron. The **Blue Mountains** on the south of Nottawasaga Bay are about 1000 feet high.

A low water-shed separates the tributaries of the Ottawa from the streams flowing into Lake Ontario, Lake Simcoe, and Georgian Bay.

V. Rivers.—242. The principal rivers are, the *St. Lawrence*; the *Ottawa*, with its tributaries (the *Nation*, *Rideau*, *Madawaska*, *Bonnechère*, *Petewawa*, and *Matawan*); *French*, *Maganatawan*, *Muskoka*, *Severn*, and *Nottawasaga*, flowing into Georgian Bay; *Saugeen*, *Maitland*, and *Aux Sables*, into

Lake Huron; *Sydenham* and *Thames*, into Lake St. Clair; *Grand*, into Lake Erie; *Trent* and *Moira*, into the Bay of Quinté; the *Abbitibi*, *Moose*, and *Albany*, into James Bay; the *Nipigon*, into Lake Superior; and *Rainy River*, into Lake of the Woods.

243. The *St. Mary*, connecting Lakes Superior and Huron; the *St. Clair*, between Lakes Huron and St. Clair; the *Detroit*, between Lakes St. Clair and Erie; the *Niagara*, 34 miles long, between Erie and Ontario; and the *St. Lawrence*, form portions of the boundary between Ontario and the United States.

244. The *Falls of Niagara*, 14 miles from Lake Ontario, are the grandest and most celebrated falls in the world. The river is over half a mile in breadth. In the rapids immediately above the falls, the descent is 57 feet in half a mile; and at the falls, the waters, rushing over a ledge of rocks, fall 165 feet. The river is here divided by Goat Island. The *Horse Shoe Falls*, on the Canadian side, have a breadth of 1900 feet; the falls adjoining the United States are about half as wide. A short distance below the falls, the river is spanned by a suspension bridge, connecting railway lines on opposite sides. The obstruction to navigation caused by the falls is overcome by the Welland Canal.

245. The *St. Lawrence*, from Lake Ontario to the Gulf, is 750 miles in length. From Lake Ontario to Montreal, 200 miles, the descent is 230 feet, a large part of which is included in rapids—the *Gatops* and *Long Sault* being the principal. Vessels pass through the rapids in descending the river; the up-passage is aided by canals.

246. The *Rideau* forms part of the *Rideau Canal*, which connects Kingston and Ottawa. The *Madawaska* is over 200 miles long. The *Petawawa* is over 150 miles long. The *Matawan* is wide and deep, and has its source within a few miles of Lake Nipissing.

247. *French River*, flowing from Lake Nipissing to Georgian Bay, is noted for its beautiful scenery. The *Severn* flows from Lake Simcoe. The *Saugeen*, 150 miles long, flows through a very fertile country.

248. The *Thames*, 160 miles long, flows through a fertile country. On its banks are *London*, *Chatham*, and other towns.

249. *Grand River*, 130 miles long, is navigable 70 miles for schooners and small boats. On its banks are *Dunnville*, *Cayuga*, *Caledonia*, *Brantford*, and *Paris*.

250. The *Trent*, 70 miles long, is noted for its fine water-power and numerous mills.

VI. **Lakes.**—251. The great lakes, *Superior*, *Huron*, *Erie*, and *Ontario*, between the Province of Ontario and the United States, are the greatest collections of fresh water on the globe. They have numerous harbors on their coasts, and are of great service in promoting the commerce of the country. They have also valuable fisheries. The smaller lakes of importance are *Nipigon*, *Nipissing*, *Temiscaming*, and *Simcoe*. (See *North America*, 36-42.)

252. *Lake Nipigon* is 70 miles long, is very deep, and is thickly studded with islands. *Nipissing* is 50 miles in length.

VII. **Lake Coast.**—253. The principal bays on the lake coast are, *Thunder Bay*, *Black Bay*, and *Nipigon Bay*, on Lake Superior; *North Channel* and *Georgian Bay*, on Lake Huron; *Nottawasaga Bay* and *Owen Sound*, on the south

of *Georgian Bay*; *Long Point Bay*, on Lake Erie; *Burlington Bay* and the *Bay of Quinté*, on Lake Ontario.

254. Some of the more important ports are, *Prince Arthur's Landing*, on Thunder Bay; *Collingwood* and *Owen Sound*, on Georgian Bay; *Goderich* and *Sarnia*, on Lake Huron; *Windsor*, on Lake St. Clair; *Port Stanley*, *Port Dover*, and *Port Colborne*, on Lake Erie; *Hamilton*, *Toronto*, *Whitby*, *Port Hope*, *Cobourg*, *Belleville*, and *Kingston*, on Lake Ontario; *Brockville*, *Prescott*, and *Morrisbury*, on the St. Lawrence.

VIII.—255. The principal islands in the lakes of Ontario are, *Michipicoten*, in Lake Superior; the *Manitoulin Isles* and *Christian Island*, in Lake Huron; *Pelce Island* and *Long Point Island*, in Lake Erie; *Amherst Island*, in Lake Ontario; the *Thousand Isles*, in the Lake of the Thousand Isles.

256. The *Manitoulin Isles* consist principally of *Grand Manitoulin*, *Little Manitoulin* or *Cockburn*, and *Drummond*. *Grand Manitoulin*, 30 miles long and 20 miles broad, is elevated and rugged. Many of its inhabitants are Indians. *Drummond*, 20 miles in length and 10 miles broad, belongs to the United States.

257. *Amherst Island* has an area of 26 square miles, and a population of 1189.

258. *Thousand Isles* comprise about 1500 wooded islets in the



VIEW AMONG THE THOUSAND ISLES.

upper part of the St. Lawrence. They are greatly celebrated for their beautiful scenery. *Wolfe Island*, "the Queen of the Thousand Isles," is 13 miles in length and 7 miles in extreme breadth. It has well-cultivated fields and fine orchards.

IX. **Soil.**—259. The soil is generally very fertile. Ontario is one of the best agricultural countries in the world.

X. **Climate.**—260. The climate is healthful and temperate. The winter is shorter, and the extremes of heat and cold are rather less, than in the Province of Quebec. In the neighborhood of the great lakes the climate is milder than in other parts of the Province.

XI. Minerals.—261. Ontario has great mineral wealth, including iron, copper, silver, lead, nickel, marble, gypsum, petroleum, and salt.

262. **Iron, lead, marble,** and various other minerals, are found in the section of the country between Georgian Bay and the Ottawa.

263. **Copper** is very abundant on the north shores of Lake Superior. The *Wellington Mines* are the most important.

264. The **silver** mines in the neighborhood of Thunder Bay and on *Silver Islet* in Lake Superior are very rich. Extensive deposits of **nickel** are found near Sudbury, on the north of Georgian Bay.

265. The **petroleum wells** of Lambton County yield immense supplies of oil. The **salt wells** of Goderich and Seaford have inexhaustible supplies of salt of the best quality.

Extensive **peat** beds exist in various parts of the country.

XII. Plants.—266. The **forests** are of great extent, comprising oak, pine, walnut, maple, beech, birch, cherry, cedar, and many other trees.

The **agricultural products** are varied and abundant, including all the ordinary cereals, vegetables, and fruits of temperate climates.

Ontario is one of the greatest wheat-producing countries in the world. The south-western counties yield grapes and peaches of excellent quality.

XIII. Animals.—267. The wild animals include the deer, wolf, bear, beaver, otter, fox, and mink.

Fish are very abundant in the lakes.

XIV. Inhabitants.—268. The population in 1891 was 2,112,989. The inhabitants are principally of British origin. (See 237.)

These of French origin number about 33,000.

The various Indian tribes comprise about 13,000.

269. The **educational system** of Ontario is very perfect. Educational affairs are under the superintendence of a member of Government, styled *Minister of Education*.

Teachers of the lowest grade are trained in **county model schools**; the higher grades, in the **normal schools** at Toronto and Ottawa. The most noted of the higher institutions of learning are the *University of Toronto*, *Trinity College*, and *McMaster University*, at Toronto, and *Queen's College*, at Kingston.

270. Over four-fifths of the inhabitants are Protestants; the remainder are Roman Catholics. Episcopalians, Methodists, and Presbyterians are the largest Protestant bodies.

XV. Divisions.—271. Ontario is divided into forty-four counties and five districts.

The Province is also divided into *electoral districts*.

FIVE COUNTIES ON THE ST. LAWRENCE.

(County Towns in *Italic Letter*.)

Counties.	Chief Towns.
GLENGARRY.....	Alexandria, Lancaster.
STORMONT.....	Cornwall.
DUNDAS.....	Morrisburg, Iroquois.
GRENVILLE.....	Prescott, Merrickville, Kemptville.
LEEDS.....	Brockville, Gananoque.

FOUR COUNTIES ON THE OTTAWA.

Counties.	Chief Towns.
PRESCOTT.....	L'Orignal, Hawkesbury.
RUSSELL.....	Russell.
CARLETON.....	Ottawa, New Edinburgh.
RENFREW.....	Pembroke, Armprior, Renfrew.

ONE COUNTY IN THE INTERIOR OF EAST ONTARIO.

LANARK.....	Perth, Almonte, Carleton Place, Smith's Falls.
-------------	--

TWELVE COUNTIES ON LAKE ONTARIO.

FRONTENAC.....	Kingston, Perthamouth.
LENNOX and } ADDINGTON....	Napanee, Newburg, Bath.
HASTINGS.....	Belleville, Trenton, Madoc, Stirling.
PRINCE EDWARD.....	Pictou, Wellington.
NORTHUMBERLAND.....	Cobourg, Brighton, Colborne.
DURHAM.....	Port Hope, Bowmanville, Millbrook, Newcastle.
ONTARIO.....	Whitby, Oshawa, Port Perry, Uxbridge.
YORK.....	Toronto, Yorkville, Newmarket, Aurora.
PEEL.....	Brampton, Streetsville, Port Credit.
HALTON.....	Milton, Oakville, Georgetown.
WENTWORTH.....	Hamilton, Dundas, Ancaster.
LINCOLN.....	St. Catharines, Niagara, Port Dalhousie.

THREE COUNTIES IN THE INTERIOR OF CENTRAL ONTARIO.

PETERBOROUGH.....	Peterborough, Ashburnham, Hastings.
VICTORIA.....	Lindsay, Bobcaygeon, Fenelon Falls.
HALIBURTON.....	Minden, Haliburton.

SIX COUNTIES ON LAKE ERIE.

WELLAND.....	Welland, Thorold, Clifton, Port Colborne.
HALDIMAND.....	Cayuga, Caledonia, Dunnville.
NORFOLK.....	Simcoe, Port Dover, Port Rowan.
ELGIN.....	St. Thomas, Port Stanley, Port Burwell, Aylmer.
KENT.....	Chatham, Romney.
ESSEX.....	Sandwich, Windsor, Amherstburg.

THIRTEEN COUNTIES ON LAKE HURON AND IN THE INTERIOR.

LAMBTON.....	Sarnia, Petrolia, Point Edward.
HURON.....	Goderich, Clinton, Seaford.
BRUCE.....	Walkerton, Kincardine, Southampton.
GREY.....	Owen Sound, Meaford, Durham.
SIMCOE.....	Barris, Collingwood, Orillia, Bradford.
MUSKOGA.....	Bracebridge, Gravenhurst.
DUFFERIN.....	Orangeville.
WELLINGTON.....	Guelph, Fergus, Elora.
WATERLOO.....	Berlin, Galt, Waterloo, Preston.
PERTH.....	Stratford, St. Mary's, Mitchell.
MIDDLESEX.....	London, Strathroy, Parkhill.
OXFORD.....	Woodstock, Ingersoll, Tilsonburg.
BRANT.....	Brantford, Paris.

FIVE DISTRICTS IN THE NORTH-WEST.

RAINY RIVER.....	Rat Portage.
PARRY SOUND.....	Parry Sound.
NIPISSING.....	North Bay, Sudbury.
ALGOMA.....	Sault Ste. Marie, Algoma Mills.
THUNDER BAY.....	Port Arthur, Port William.

Electoral Divisions.—272. In some cases portions of different counties are united, forming *Electoral Divisions* or *Ridings*, for the

election of members to the Dominion House of Commons and the Provincial Assembly. **Bothwell** and **Dufferin** are Dominion Ridings; **Monok** and **Gardwell** are both Dominion and Provincial Ridings. **Hallburton** is a county for municipal purposes only. **Lennox** and **Addington** are one county, except for electoral purposes.

XVI. Towns.—273. The cities of Ontario are, Toronto, Kingston, Ottawa, Hamilton, London, St. Catharines, Brantford, Guelph, Belleville, St. Thomas, and Stratford. **Toronto** (181,220), situated on Toronto Bay, is the capital and largest city of Ontario. It has a fine harbor, and is connected with all parts of the country by several lines of railway. Its manufactures are varied and extensive, including railway cars, machinery, sewing-machines, boots and shoes, and hardware.

Toronto is built principally of brick. Among the many fine public buildings are the *University of Toronto*, beautifully situated on Queen's Park, *Trinity College*, *Osgoode Hall*, the *Normal School*, *Parliament House*, *St. James' Cathedral*, and *St. Michael's Cathedral*.
274. **Kingston** (19,264), on a fine harbor at the eastern end of Lake Ontario, ranks next to Quebec and Halifax in the strength of its fortifications. It has extensive manufactures, and is the seat of *Queen's University* and the *Military School* of the Dominion.

275. **Ottawa** (44,154), on the Ottawa River, 126 miles from Montreal, is the capital of the Dominion, and a great centre of the lumber trade. The magnificent *Government Buildings* and the *Normal School* are the most important public buildings. *Rideau Hall*, the residence of the Governor-General, is in the village of New Edinburgh, a suburb of Ottawa.

276. **Hamilton** (48,380), at the head of Burlington Bay, is a prosperous commercial and manufacturing city. Its manufactures comprise agricultural implements, machinery, stoves, glassware, sewing-machines, shoes, and clothing.

277. **London** (31,979), on the Thames, 80 miles west of Hamilton, is surrounded by a fertile and populous agricultural country, and has large trade in grain and flour. Its medicinal springs attract many invalids during the summer months.

278. **St. Catharines** (9170), on the Welland Canal, has a beautiful situation in the neighborhood of mineral springs, and is a favorite resort in summer. It manufactures flour, leather, sewing-machines, and woollens.

279. **Brantford** (12,753), **Guelph** (10,539), **Chatham** (9052), **Dundas** (3000), **Galt** (7535), **Woodstock** (8612), **Ingersoll** (5000), **Stratford** (9501), **Peterborough** (9715), **Lindsay** (6081), **Perth** (3000), and **Brookville** (8793), are important manufacturing towns.

280. **Collingwood** has a large trade in lumber and grain, and has steam communication with the ports on Lake Superior.

281. **Goderich** (4000), **Sarnia** (8693), **Cobourg** (4400), **Port Hope** (5042), and **Belleville** (9914), are important manufacturing towns and lake ports, from which the produce of the country is shipped. **Niagara** was the first capital of Upper Canada.

XVII. Industries.—282. The most important pursuits are agriculture, lumbering, mining, manufacturing, fishing, and commerce.

The exports consist principally of flour, grain, lumber, ashes, petroleum, salt, cattle, and manufactured goods.

The imports include coal, cloths, silks, wine, tea, and tropical produce.

Railways.—283. The most important railways in Ontario are the *Canada Pacific* and the *Grand Trunk*. The **Canada Pacific** crosses the Province from Ottawa to the Lake of the Woods (about 1200 miles). An important branch runs from Sudbury to Sault Ste. Marie, where an immense bridge gives connection with the railways of the United States. A **Canada Pacific** Railway line also connects Toronto and Montreal (344 miles). The **Grand Trunk** extends from the eastern limits of the Province to the St. Clair River (about 500 miles). Another line extends from Niagara Falls to Sarnia. Indeed, the various branch lines of the **Grand Trunk** form a complete network in the western part of the Province.

284. The *Welland Canal*, 28 miles long, connects Lakes Erie and Ontario; the *Rideau Canal*, 126 miles long, connects Lake Ontario with the Ottawa River. There are also canals along the St. Lawrence and the Ottawa.

XVIII. Government.—285. The local government is similar to that of the other provinces.

The Legislature consists of but one House, called the *Assembly*, which is composed of 91 members, elected for the term of four years.

QUESTION.—A merchant in Picton, Nova Scotia, purchases a lot of flour in London, Ontario, and sends a vessel to receive it at Montreal: what freight will the vessel carry to Montreal, through what waters will she pass, and how will the flour be brought to Montreal?

EXERCISE I.

[MAP OF ONTARIO.]

Point out and describe the rivers, lakes, islands, counties, and towns of Ontario.

EXERCISE II.

Draw a map of the Province of Ontario, marking rivers, lakes, islands, counties, and towns.

MANITOBA.

History.—286. Manitoba formed a part of Hudson Bay Territory. It was organized as a Province of the Dominion under its present name in 1870.

This country has been variously known as *Selkirk Settlement*, *Assiniboia*, and *Red River Settlement*. It was included in a large tract purchased in 1811 from the Hudson Bay Company by the Earl of Selkirk, as a home for Scotch emigrants. The early colonists experienced great hardships. They spent the first winter on the inhospitable shores of Hudson Bay. In the spring of 1812 they selected a home at Red River. Persecuted by Indians and half-breeds, who regarded them as invaders of their hunting-grounds, they sought refuge for a time at Pembina. For two or three years after their return their crops were totally destroyed by grasshoppers and blackbirds; and subsequently much damage was caused by inundations from the rivers.

In 1835 the country was repurchased by the Company from the Earl's executors.

During the winter of 1869-70, whilst negotiations were pending between the Hudson Bay Company and the Dominion Government, the colony was under Riel's independent government.

287. **Manitoba is bounded** on the north by the parallel 53° N.: on the south-east by Ontario; on the south by

the United States; and on the west by Assiniboia and Saskatchewan.

Area.—288. The extreme length of the Province, east and west, is over 500 miles, and the width is about 280 miles. The area is about 117,000 square miles.

289. The surface consists largely of level or undulating prairies, covered with tall grass. The general slope is towards the north.

Rivers and Lakes.—290. The principal rivers are *Red River* and the *Assiniboine*, which unite about 40 miles from Lake Winnipeg. The southern portions of *Lakes Winnipeg* and *Manitoba* are in this Province.

The rivers and lakes abound in fish, including white fish, sturgeon, cat-fish, perch, and pike. Wild geese and ducks are numerous around the lakes in spring and fall.

291. *Red River* is about 700 miles long, and is navigable throughout the greater part of its course. Steamers run between Winnipeg and Moor Head in Minnesota, where the Northern Pacific Railway crosses the Red River.

The *Assiniboine* is over 450 miles in length.

Soil.—292. The soil is very deep and remarkably fertile, yielding year after year without manure from twenty to forty bushels of wheat per acre.

Climate.—293. The climate is subject to extremes. Steady, cold weather prevails during the winter, but the severity of the cold is mitigated by the dryness of the atmosphere. In spring, warm weather comes on rapidly. The climate is healthy.

Products.—294. Manitoba is one of the finest agricultural countries in the world. It is specially adapted to the growth of grain, flax, hemp, and vegetables. It is also well suited to the raising of stock.

295. The woodlands are mostly in belts along the margins of the rivers. Poplar, elm, ash, oak, and bass-wood are the principal trees.

Population.—296. The population is about 154,442, and it is rapidly increasing by the arrival of emigrants from the other provinces of the Dominion and from Europe.

297. The people are of varied origin, including British, French, half-breeds, Indians, Russian Mennonites, and Icelanders.

298. Education receives due attention. The higher institutions of learning are, the *University of Manitoba*, *St. Boniface College*, *St. John's College*, *Episcopalian*, and *Manitoba College*, Presbyterian.

Divisions.—299. Manitoba is divided into five counties—*Selkirk*, *Provencher*, *Liagar*, *Marquette East*, and *Marquette West*. It is also divided into twenty-four electoral divisions, for the election of representatives to the local Assembly.

Towns.—300. *Winnipeg* (25,642), the capital, is situated at the junction of the Red River and the Assiniboine, forty miles south of Lake Winnipeg, and sixty-five miles from Pembina in the United States. The city is noted for its rapid growth.

301. *St. Boniface*, on the east side of Red River, opposite Winnipeg, is the seat of *St. Boniface College*.

Fortage la Prairie, on the Assiniboine, in a fertile and populous district, is an important grain market.

Bromdon is a rapidly-growing town, and the leading grain market of the Province.

Emerson, *Selkirk*, *Rapid City*, and *Minnedosa* are important towns.

Railroads.—302. The principal railways are the *Canada Pacific* and its branches.

Government.—303. The local Legislature consists of but one House of twenty-four members; the Executive consists of the Lieutenant-Governor and a Council of five members.

KEEWATIN.

304. The District of Keewatin was separated from North-West Territory, and organized as a distinct country, in 1876.

305. Keewatin is bounded on the north by the Arctic Ocean; on the east by Hudson Bay and James Bay; on the south by the Provinces of Ontario and Manitoba; and on the west by Saskatchewan and North-West Territory.

Physical Features.—306. The general slope of the country is easterly towards Hudson Bay. The country is generally rugged and rocky, abounding in small lakes and rapid streams. Numerous falls obstruct the navigation of the rivers.

307. The principal rivers are, the *Albany*, which forms the boundary line between Keewatin and the Province of Ontario, the *Severn*, the *Hayes*, the *Nelson*, the *Churchill*, and the *Great Fish River*.

The *Nelson* is a large river, about 400 miles in length, bearing the surplus waters of Lake Winnipeg to Hudson Bay. It flows through a rugged country, and has many falls and rapids.

308. The climate is subject to extremes, and in the north it is severely cold. The country is not suited to agriculture. It has extensive and valuable forests, its mineral resources are said to be very important, and it has much wealth in its fur-bearing animals.

309. The inhabitants are chiefly Indians. A few white people are stationed at the Hudson Bay Company's trading-posts or forts for the purpose of buying furs from the Indians.

310. *York Factory*, on Hudson Bay, at the mouth of the Nelson River, is one of the principal trading-posts of the Hudson Bay Company. During the months of August and September, Hudson Bay and Strait are open to navigation. At this season vessels arrive from England, bringing such articles of merchandise as the Indians are willing to take in exchange for their furs.

311. It has been proposed to build a railway from Winnipeg to Port Nelson, on Hudson Bay, in order to obtain a more direct route for the shipment of grain from the North-West to Europe.

NORTH-EAST TERRITORY AND LABRADOR.

North-East Territory.—312. A large tract of country, bounded on the north by Hudson Strait, on the east by Labrador, on the south by Quebec, and on the west by Ontario, James Bay, and Hudson Bay, is called *North-East Territory*. Its extensive forests have valuable timber. The soil is in some parts suited to agriculture. The inhabitants are principally Indians.

Labrador.—313. This territory, lying along the coast from Hudson Strait to the Strait of Belle Isle, and extending inland to include the country drained by streams flowing into the Atlantic, belongs to Newfoundland. The country is generally rocky, cold, and barren, and the vegetation consists of mosses and shrubs. In the sheltered valleys are groves of poplar and birch, the home of deer, bears, wolves, foxes, and other wild animals.

Potatoes and other vegetables come to maturity, but grain does not ripen.

314. The fisheries of Labrador are very valuable, the coasts teeming with cod, salmon, and herring. The fishermen who throng the coasts in summer are chiefly from Newfoundland, but they also come from Quebec, Nova Scotia, and the United States.

Seals are very numerous in the Labrador waters, and many steamers and sailing vessels from St. John's and other ports of Newfoundland are employed in their capture.

315. The inhabitants are Algonquin Indians, Esquimaux, and a few white people on the coasts.

The Esquimaux are small in stature, and live by hunting and fishing. They have been taught many of the principles of Christianity by Moravian missionaries, and are said to be honest and hospitable. They keep a large number of dogs, which in winter they harness to sledges and drive rapidly over the snow. During the long winter they have no fire in their little huts, except their oil lamps.

THE NORTH-WEST.

History.—316. The *North-West* is a name often applied to the vast region on the west and north-west of Manitoba, and extending to British Columbia and Alaska. This territory formed a part of the great country which was long known as Hudson Bay Territory, and which was purchased from the Company in 1870 by the Dominion Government.

The Hudson Bay Company began its operations in 1670 in that section of the country known as *Rupert's Land*, which included the basins of the streams flowing into Hudson Bay. Subsequently the territory was extended westerly to the Pacific Ocean. For a period of two hundred years the Company derived immense revenues from its monopoly of trade with the Indians. The Dominion Government paid to the Company \$1,500,000 in compensation for its claims. The Company retains the liberty of carrying on trade in the country, the possession of its trading-posts, with a block of land around each post to the extent of 50,000 acres in all, and the right to grants of land within the country south of the northern

branch of the Saskatchewan equal to one-twentieth of the land laid out for settlement.

317. In 1882 the southern part of the North-West Territory was divided into four great divisions, called *Districts*, which, when sufficiently populated, will become Provinces of the Dominion.

The Districts.—318. *Assiniboia* lies along the United States frontier, on the west of Manitoba; *Alberta* is on the United States frontier, between Assiniboia and British Columbia; *Saskatchewan* is on the north of Assiniboia; and *Athabasca* is on the north of Alberta. The four Districts comprise an area of about 430,000 square miles. The vast country on the north of these Districts is called *North-West Territory*.

Physical Features.—319. In the west the country is elevated, comprising the highlands on the eastern side of the Rocky Mountains. The southern part of the country includes the basins of the Saskatchewan and the upper part of the basins of the Churchill and Assiniboine Rivers. The general slope of this portion is easterly. The northern part of the country is in the basin of the Mackenzie, and slopes towards the north.

320. The *Saskatchewan* has two main branches, *North Branch* and *South Branch*. The *North Saskatchewan* is 770 miles in length, and is usually navigable for steamers to Carlton, and at certain seasons to Edmonton. Its largest tributary is the *Battle River*. *South Saskatchewan* is 810 miles in length. Its chief tributaries are *Bow River* and *Red Deer River*. From the confluence of North and South Saskatchewan to the mouth of the river at Lake Winnipeg the distance is 280 miles.

321. The *Assiniboine* and its tributary the *Qu'Appelle* are the chief rivers in the south-east.

322. The *Mackenzie* flows through a vast plain. It has two principal sources, the *Athabasca* and the *Peace River*. The *Athabasca*, 800 miles in length, rises in the glaciers of Mount Brown, near *Yellow Head Pass*. The *Peace River*, 1100 miles in length, rises west of the Rocky Mountains.

The Fertile Belt.—323. The country on the Saskatchewan and Assiniboine Rivers comprises extensive grassy plains, varied with lakes, marshy tracts, and beautiful park-like groves of poplar, oak, ash, and white wood on the margin of the streams. Further north, also, along the middle course of the Peace River, are long reaches of rich prairie lands, covered with tall grass and bright-colored flowers.

324. The *climate* in these Districts is similar to that of Ontario, only the winters are more severe and the nights in summer are cooler. On account of the dryness of the atmosphere, the severe cold is borne with less discomfort. The snowfall is light, seldom exceeding a foot in depth. There is but little rain in spring until towards the end of May and the first of June. Frequent thunder-showers occur in July and August.

The south-western part of Assiniboia and the adjoining part of Alberta often suffer from lack of rain. The winters here are generally mild, a warm wind often blowing from the mountains on the west.

325. The four Districts, as well as a large territory further north along the Peace River, have vast **agricultural resources**. They are especially adapted to the growth of grain and to stock-raising.

The **mineral resources** are not well known. Alberta contains vast coal fields.

326. **Extensive forests** cover a large part of the country, especially along the Mackenzie River and the lower course of the Peace River.

327. **Wild animals** are numerous in the forests, including the moose, deer, wolf, bear, fox, and other fur-bearing animals.

The Far North.—328. In the extreme north the winters are intensely cold, and during the short summer the ground is thawed to the depth of only a few inches. The vegetation here consists of shrubs, coarse grasses, mosses, and lichens.

Inhabitants.—329. The population of the North-West is made up of white people, Indians, and half-breeds. The white people are mostly new settlers, who have come from the other Provinces of the Dominion, and from various countries of Europe. The total population is about 94,000.

Towns.—330. The most important towns are *Regina*, *Medicine Hat*, *Qu'Appelle*, and *Moose Jaw*, in Assiniboia; *Calgary*, *Edmonton*, and *Fort M'Leod*, in Alberta; and *Prince Albert*, in Saskatchewan.

331. **Regina**, on the Canada Pacific Railway, in one of the finest wheat-growing sections of the country, is the seat of government of the four Districts.

Medicine Hat is in the centre of a rich coal district.

332. **Prince Albert**, at the junction of the North and South Saskatchewan, is connected with Regina by a branch railway.

333. **Calgary**, on the Canada Pacific Railway, is in a grazing country at the foot of the Rocky Mountains. A branch railway runs north to Edmonton and south to Fort M'Leod. **Edmonton** is in a rich coal district.

Banff has an elevation of over 4000 feet on the east side of the Rockies. It is celebrated for its hot springs. In the neighborhood, also, is the Canadian National Park, with its beautiful scenery of mountains, valleys, lakes, and streams.

334. The **government** of the four Districts is vested in a Lieutenant-Governor and a Council.

BRITISH COLUMBIA.

History.—335. British Columbia formed a part of Hudson Bay Territory until 1858, when the discovery of gold attracted crowds of miners, and the country was organized as a British Province. It was admitted as a Province of the Dominion of Canada in 1871.

336. This Province is bounded on the north by North-West Territory; on the east by Athabasca and Alberta; on the south by the United States; and on the west by the Pacific Ocean.

The parallel of 60° N. forms the boundary line between British Columbia and North-West Territory. The United States Territory of Alaska extends southerly along the Pacific coast, separating the northern half of British Columbia from the ocean.

337. The **coast** is fringed with narrow bays, and studded with islands.

The most important harbors are *Burrard Inlet*, *Home Sound*, *Bute Inlet*, *Mouth of the Skeena*, *Esquimalt*, *Nanaimo*, and *Barclay Sound*.

The principal islands are *Vancouver* and *Queen Charlotte*. The most important coast waters are *Queen Charlotte Sound*, the *Gulf of Georgia*, and the *Strait of Juan de Fuca*, which separate Vancouver Island from the mainland.

338. **Vancouver Island** derived its name from Vancouver, of the British navy, who explored its coast in 1792. It was formed into a separate Province in 1858. In 1866 the island and the mainland were united into one Province. Vancouver is the largest island on the west coast of America, having an area of 15,937 square miles, or nearly equal to the Peninsula of Nova Scotia. The island has many fine harbors. The climate is mild and humid, resembling that of England. The soil in some parts is fertile. The forests yield excellent timber. The island is noted for its rich coal mines.

339. **Queen Charlotte Islands** comprise a group, of which the principal are *Graham*, *Moreaby*, *North*, and *Prescott*. They have a delightful climate, and are rich in gold, copper, iron, and coal.

Area.—340. British Columbia has an area of 341,300 square miles; or it equals a square of 584 miles.

The Province is 765 miles in length, and 400 miles in breadth.

Surface and Rivers.—341. The general surface is elevated and rugged. The *Rocky Mountains* extend along the eastern borders of the Province, and the *Coast Mountains* are in the west near the coast. Between these mountain ranges is an elevated plateau, having an average height of 3000 feet, and furrowed by deep valleys. The Coast Mountains are broken by deep, narrow gorges, through which the rivers make their way to the sea.

342. The principal rivers are, the *Stekin*, the *Skeena* or *Simpson*, the *Fvrlay*, the *Fraser*, the *Thompson*, and the *Columbia*.

343. The **Fraser River**, about 700 miles in length, is the most important river of the country. At Lytton, about 180 miles from the sea, it is joined by the *Thompson*, a large tributary flowing

from the east. From this point to Yale, 60 miles further down, the river-banks are noted for the grandeur of their scenery.

The Fraser is navigable for steamers to Yale, about 120 miles.

344. The Columbia is a rapid river, about 1200 miles in length. Its lower course is in the United States.

345. The climate on the coast, influenced by warm ocean currents, is much milder than on the eastern side of the Dominion in the same latitude. The spring is very rainy, but the summer months are pleasant. The table-lands of the interior have but little rain; the cold in winter is severe, but the fall of snow is light. In summer the days are hot and the nights are cool.

346. The soil is generally fertile. Owing to the dryness of the climate the interior is not generally suited to agriculture; but when watered by irrigation, the soil is very productive.

347. The agricultural products are similar to those of the other provinces, including wheat, barley, potatoes, and turnips. Little attention has been given to agriculture.

The Forests.—348. The mountain slopes and all the country along the west coast are covered with forests. On the coast country the forests are magnificent. Douglas pine grows here to an immense size. The larger trees are from 150 to 300 feet in height, and have a diameter of 10 feet at the base. These forests yield valuable timber, large quantities of which are exported to Australia and other countries.

349. The table-lands of the interior are generally destitute of trees. In some parts the low, brown sage-bush is the principal vegetation; in other parts the open plains are covered with bunch-grass and other nutritious herbs. Much of this country is well adapted to grazing.

350. The mineral wealth of British Columbia is very great. Gold is abundant, especially along the upper course of the Fraser and on the Thompson Rivers.

Bituminous coal is plentiful in Vancouver; anthracite in the Queen Charlotte Islands. Silver, copper, and iron are also supposed to be abundant.

351. The fisheries are very valuable. In the rivers are salmon and sturgeon of immense size, and the coast waters teem with herring, cod, and halibut.

352. Fur-bearing animals are numerous.

Inhabitants.—353. The principal settlements are in the south of Vancouver, along the navigable part of the Fraser River, and in the Cariboo District. The population in 1891 was 92,767.

Towns.—354. Victoria (16,841), the capital, has a beautiful situation in the south-east of Vancouver. It has a good

harbor, and two or three miles distant is the harbor of Esquimalt, one of the finest on the Pacific coast.

Nanaimo is a thriving village on Vancouver, in the neighborhood of valuable coal mines and freestone quarries.

355. New Westminster (6641), the former capital, is situated on the Fraser River, 15 miles from its mouth. Its scenery is magnificent, and its climate delightful. The river fishery is its principal industry.

Lytton is a village on the Fraser River, about 170 miles from its mouth. Yale is an important village on the Fraser, about 60 miles below Lytton.

Vancouver (13,685), the terminus of the Canada Pacific Railway, on Burrard Inlet, is a new town of rapid growth. It is connected with Japan, China, and Australia by a regular line of steamers.

356. The chief resources of British Columbia are its minerals, forests, and fisheries.

357. The Legislature consists of a single House, called the Assembly, composed of thirty-three members.

REVIEW.—(1.) Give the area, population, leading industries, and the capital, with position and population, of each Province of the Dominion.

(2.) Name the five largest cities of the Dominion, and give their population.

(3.) Trace the usual route of travel from Nova Scotia to Manitoba.

NEWFOUNDLAND.

History.—358. The Island of Newfoundland was discovered by Cabot in 1497. The important fisheries on its coast soon attracted the attention of the Portuguese, Spaniards, French, and English. In 1583, Sir Humphrey Gilbert took formal possession of the Island in the name of Queen Elizabeth.

359. Settlements were formed in Newfoundland early in the seventeenth century, both by the English and the French. Colonization advanced very slowly, in consequence of jealousies of the rival Powers and opposition from those who wished to monopolize the fisheries.

In 1713, the French ceded Newfoundland to Great Britain. It was nominally attached to the Government of Nova Scotia, until 1728, when it became a distinct Province. By the Treaty of Paris, in 1763, the Island was finally confirmed to Britain. The small islands of Miquelon and St. Pierre, on the south coast, are still held by the French as fishing-stations.

Position.—360. Newfoundland is situated at the entrance of the Gulf of St. Lawrence, 60 miles north-east of Cape Breton. It is separated from Labrador by the Strait of Belle Isle, which at the narrowest part is only 12 miles in breadth.

N. lat. 46° 37'—51° 40'; W. lon. 52° 41'—59° 31'.

Form.—361. The Island has the general outline of a triangle.

Coast.—362. The coast line is very irregular, and is about 1200 miles in length.



FISHING ON THE BANKS OF NEWFOUNDLAND.

The principal **coast waters** are, the *Strait of Belle Isle*, *Hare Bay*, *White Bay*, *Notre Dame Bay*, *Bonavista Bay*, *Trinity Bay*, *Conception Bay*, *Placentia Bay*, *Fortune Bay*, *Hermitage Bay*, *St. George Bay*, and *Bay of Islands*.

363. The Peninsula of Avalon is formed by Trinity and Placentia Bays.

364. The principal **capes** are, *Bauld*, *St. John*, *Freels*, *Bonavista*, *Breakheart*, *Race*, *May*, *Ray*, and *St. George*.

365. The principal **islands** on the coast are, *North Belle Isle*, *South Belle Isle*, *Fogo*, *St. Pierre*, and *Miquelon*.

366. **St. Pierre** and **Miquelon**, on the south coast, belong to France. They are valuable chiefly as fishing-stations.

The Banks.—367. Off the south and east coasts is a submarine plateau, called the *Banks of Newfoundland*, about 600 miles in

length, by 200 in breadth. The water here is much shallower than in other parts of the ocean. The Banks are celebrated for their cod fisheries.

A submarine telegraphic cable from Newfoundland to Ireland, and another from Newfoundland to Cape Breton, connect America with Europe.

Area.—368. Newfoundland has an area of about 40,200 square miles; or it equals a square of 200 miles.

Extreme length, 400 miles; breadth, 320 miles.

Surface and Rivers.—369. The interior consists largely of table-land, varied with low mountain ranges. A large area is covered with lakes and marshes. The land is strewn with rocks, and the more elevated portions are barrens covered with shrubs.

Extensive tracts of country, especially on the west of the Island, are clothed with fine forests, and the soil in these wooded districts is said to be well suited to agriculture.

370. The principal **rivers** are, the *Exploits*, the *Gander*, the *Great Cod Roy*, and the *Humber*.

The **Exploits** is the longest river, and is about 150 miles in length.

The **Great Cod Roy**, about sixty miles in length, flows through a well-wooded and beautiful country. The **Humber**, about 100 miles in length, also has fine forests along its banks.

371. **Lakes** are very numerous. The largest are, *Grand Pond*, *Red Indian Lake*, and *Gander Bay Pond*.

Grand Pond, about 60 miles in length, is drained by the Humber River. **Red Indian Lake**, 30 miles in length, is an expansion of the Exploits. **Gander Bay Pond** has its outlet in the Gander River.

Climate.—372. On account of the maritime position of Newfoundland its climate is not liable to great extremes of temperature. Vast quantities of ice, brought down by polar currents from the Arctic regions, retard the progress of spring. The icebergs also condense the vapors of the Gulf Stream, and produce dense fogs during the months of May and June. The climate is healthful.

373. **Agriculture** has received but little attention. Potatoes, turnips, and other vegetables are successfully cul-

tivated; and in some parts of the Island the soil and climate are well suited to wheat and other kinds of grain.

374. Minerals.—Newfoundland is rich in minerals, including silver, copper, lead, iron, coal, and plumbago.

The **copper mines** of Betts Cove give employment to a large number of men and yield a large revenue. There are also valuable copper mines at Tilt Cove.

The Fisheries.—375. The fisheries on the coast of Newfoundland constitute the chief industry of the Island, and they have, since the discovery of America, been a great source of wealth. The Banks of Newfoundland are the most celebrated cod-fishing grounds in the world. The coasts swarm with almost all kinds of fish, and they also abound in seals and porpoises.

376. Among the **wild animals** are the deer, wolf, bear, beaver, marten, and fox.

Population.—377. The population of Newfoundland is about 194,000.

The inhabitants live near the coast, and the most important towns and settlements are in the south-east. Nearly one-half the inhabitants are Roman Catholics, and about one-third are Episcopalians. Separate or denominational schools prevail.

378. Newfoundland is divided into **fifteen electoral districts**.

Towns.—379. **St. John's** (30,000), the capital, is the most easterly city of North America. It is 1620 miles distant from the west coast of Ireland. It has a superior harbor, which is approached by a strait called the "Narrows," with high rocky cliffs on each side. The chief industries are the cod and seal fisheries, and trade in oil, fish, and goods required by the fishermen.

380. Harbor Grace (8000) has a good harbor and an extensive trade. **Carbonear**, on the north side of Conception Bay, **Bonavista**, **Brigus**, **Trinity**, **Burin**, and **Twillingale** are important towns, having each from 2000 to 3000 inhabitants.

381. Heart's Content, a village on Trinity Bay, is the landing-place of the Atlantic cable between Newfoundland and Ireland.

Betts Cove and **Tilt Cove** are noted for their copper mines.

Industries.—382. The cod, seal, and other fisheries are the chief pursuits. The cod fisheries are the most valuable in the world. The rich copper mines are becoming an important field of labor.

The principal **exports** are fish and oil. Total value, about \$6,860,000.

The **imports** embrace flour, tropical produce, manufactured goods, and lumber. Annual value, \$7,800,000.

Government.—383. The Governor is appointed by the Crown.

The **Legislature** consists of two Houses—a *Legislative Council* of 12 members, and an *Assembly* of 30 members.

A portion of **LABRADOR** lying along the Atlantic coast, and extending from Cape Chidley to the Strait of Belle Isle, is under the jurisdiction of Newfoundland. (*See* 314.)

EXERCISES ON THE GLOBE.—(1.) Find the distance between the city of Quebec and Victoria.

(2.) When it is noon at Quebec, what is the time at Victoria?

(3.) Find the length of the longest day at York Factory.

(4.) Find the distance from Vancouver to Japan.

(5.) Find the time of sunrise and sunset at White Bay (lat. 50°) on the 21st of June.

QUESTION.—A ship sails from Liverpool to York Factory and back: through what waters does she pass, what freights will she probably carry, and what is the distance sailed?

THE UNITED STATES.

I. History.—384. The United States originally consisted of thirteen British colonies, situated on the Atlantic slope. They declared their independence in 1776; which, after several years' war, was acknowledged by the British Government in 1783.

The Revolution, as the struggle for independence is called, was caused by an attempt on the part of the Imperial Government to impose taxes upon the colonies. After vainly remonstrating, the colonists appealed to arms.

The thirteen colonies were New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Pennsylvania, Maryland, Virginia, North Carolina, South Carolina, and Georgia.

The first battle between the colonists and the British was that of *Bunker Hill*, near Boston, in 1775; and the last was fought at Yorktown, Virginia, in 1781.

385. The United States did not originally comprise much over one-fourth of the present area. The whole country between the Mississippi and the Rocky Mountains, except Texas, belonged to the French. This was purchased by the United States in 1803, for \$15,000,000. In 1819, the peninsula of Florida was obtained from Spain; in 1845, Texas, having previously gained its independence from Mexico, was annexed; and at the close of a war with Mexico, in 1848, New Mexico and California were ceded to the United States.

386. Alaska, formerly called Russian America, was purchased from Russia in 1867, for \$7,250,000.

387. The most noted recent event in the history of the United States is the Southern Rebellion. In 1861, eleven of the Southern States withdrew from the Union, and formed themselves into a separate republic. After a sanguinary struggle of four years, they were subjugated by the Federal Power.

388. The United States furnish the most remarkable example of rapid national growth which the world has ever witnessed. The resources are exceedingly varied and great. Emigrants have crowded in from almost every country of the Earth, and the population is fifteenfold greater than at the Revolution. The United States is by far the most powerful state in America, and ranks with the great Powers of Europe.

II. Position.—389. This great country is situated in the southern half of the North Temperate Zone. It comprises the whole breadth of North America, from the Atlantic to



CAPITOL AT WASHINGTON.

the Pacific, and extends from British America on the north to Mexico on the south.

N. lat. 25° 32'—49°; W. lon. 67°—124°.

The Rio Grands separates the United States from Mexico, from El Paso to the Gulf of Mexico.

III. **Form.**—390. The general outline is that of a four-sided figure, having its greatest length east and west.

The eastern coast line cuts the meridian at an angle of about 45 degrees; the western coast forms the arc of a circle.

IV. **Coast.**—391. The coast line is over 6000 miles in length. The northern part of the Atlantic coast is high and rocky, presenting excellent harbors. South of the mouth of the Hudson, and along the Gulf of Mexico, the coast is generally low and sandy, and the harbors are obstructed by sand-bars. The Pacific coast is elevated and regular. It has fine harbors.

392. The principal **coast waters** are, *Massachusetts Bay, Cape Cod Bay, Long Island Sound, Delaware Bay, Chesapeake Bay, Albemarle Sound, Pamlico Sound, Apalachee Bay, San Francisco Bay, mouth of the Columbia, Gray's Harbor, Strait of Juan de Fuca, and Puget Sound.*

393. The principal **capes** are *Ann, Cod, Montauk Point, Sandy Hook, May, Henlopen, Charles, Henry, Hatteras, Lookout, Fear, Canaveral, Florida, Sable, St. Blas, Conception, Mendocino, and Flattery.*

394. The eastern coast abounds in small **islands**, which are high and rocky in the north, low and sandy in the south. The most important are *Mount Desert, Nantucket, Martha's Vineyard, Long Island, Florida Keys, and the Dry Tortugas.*

Long Island is over 100 miles in length, and includes an area about half the size of Cape Breton. The Florida Keys, or Reefs, consist of a large number of small islands and sand-banks south of Florida.

V. **Area.**—395. The area, including Alaska, is about the same as that of British America.

The extent from east to west is about 2600 miles, and from north to south 1600. Area, including Alaska, about 3,600,000 square miles.

VI. **Surface.**—396. This country, like British America, includes portions of the four great physical divisions of North America—the *Atlantic Highlands, the Pacific Highlands, the Central Plain, and the Atlantic Plain.* (See *North America, VI.*)

397. The Appalachian Mountain System extends north-east and south-west along the eastern side of the country for a distance of 1300 miles.

The parallel ranges are separated by beautiful and fertile valleys. In the north the mountains approach near the coast; south of the Hudson they are further inland, a low sandy plain lying between them and the coast. The *Catskill and Adirondack Mountains* of



s, which
y in the
untucket,
the *Dry*

an area
or Reefs,
south of

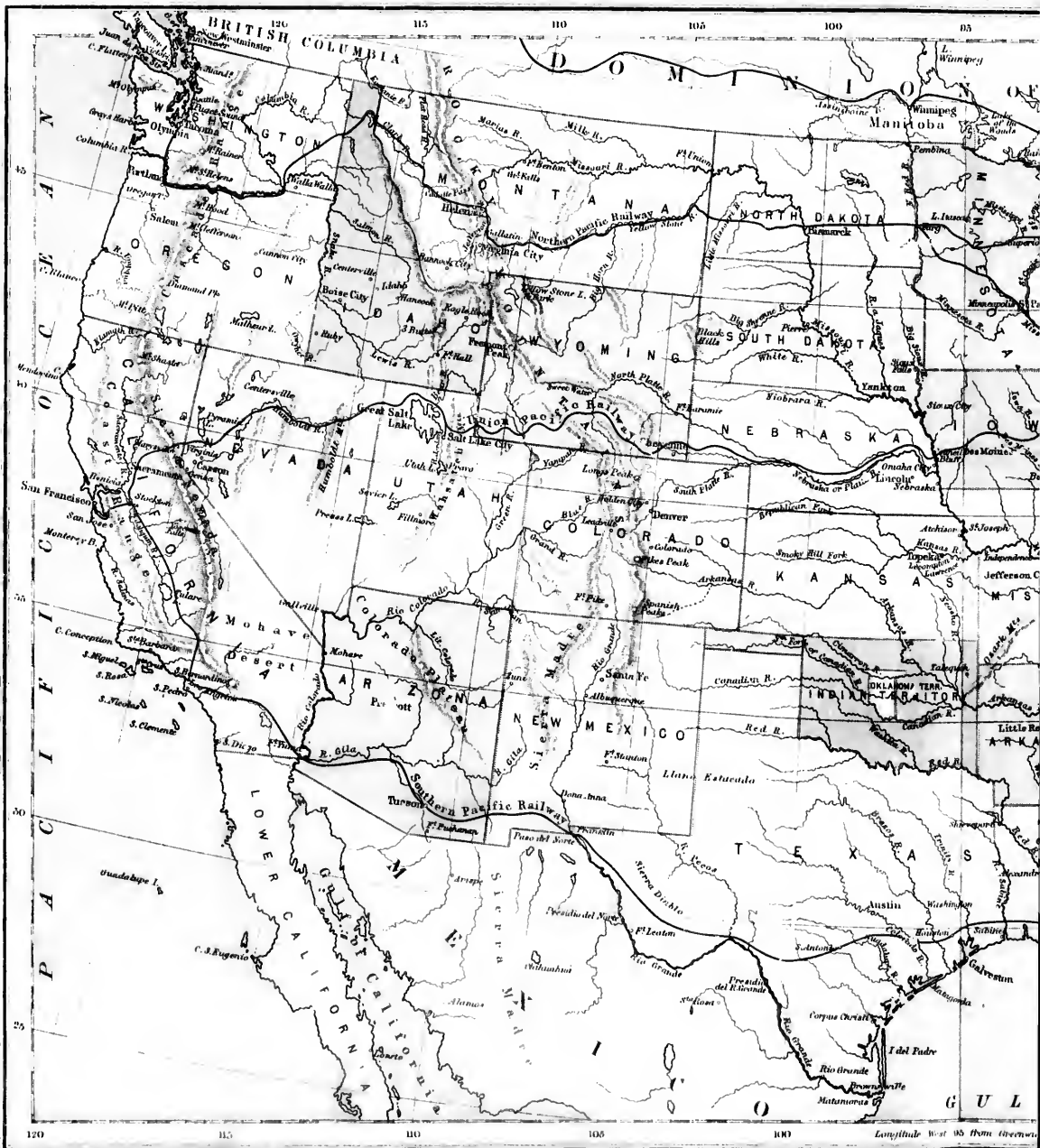
about the

om north
0 square

merica,
sions of
c High-
(*See*

north-
ntry for

valleys.
n of the
between
atains of



120

115

110

105

100

Longitude West 95 from Greenwich

English Miles
 0 100 200 300
 Scale of 240 Miles to an Inch
 One Square Inch comprises 294 times the Area of



English Miles

Scale of 240 Miles to an Inch

One Square Inch Comprises 294 Acres the Area of One Sq Inch of Map 1

New York and
for beautiful sce

398. The p
Rocky Mounta
Cascade, and

The Coast R
Range is lofty,
an elevation of

399. Yosemite
miles long and
precipitously fr
80 feet wide de
first is said to b
and attracts nu



400. The pla
the Sierra Nev
by the *Wahac*
in the north, r
These table-lar
low, brown sag
the cactus in th
Many of the st

New York and the *White Mountains* of New Hampshire, are noted for beautiful scenery. (See *North America*, 22 and 23.)

398. The principal mountains on the west side are, the *Rocky Mountains*, *Sierra Madre*, *Wahsatch*, *Sierra Nevada*, *Cascade*, and *Coast Mountains*. (See *North America*, 16-19.)

The *Coast Range*, near the Pacific, is quite low. The *Cascade Range* is lofty, and contains several volcanic peaks. *St. Helen's* has an elevation of 15,750 feet; *Mount Hood*, of 14,360 feet.

399. *Yosemite Valley*, in the *Sierra Nevada*s of California, is 10 miles long and 2 miles wide, enclosed between granite cliffs rising precipitously from 2000 to 4000 feet. In the *Yosemite Falls*, a stream 80 feet wide descends 2000 feet in three successive cataracts. The first is said to have a descent of 1300 feet. The scenery is grand, and attracts numerous visitors.



YOSEMITE FALLS.

400. The plateau between the *Rocky Mountains* on the east and the *Sierra Nevada* and *Cascade Mountains* on the west is divided by the *Wahsatch Mountains* into two basins—the *Great Basin* in the north, and the *Basin of the Colorado River* in the south. These table-lands are for the most part dry, barren plains. The low, brown sage-bush is the characteristic vegetation in the north; the cactus in the south. The *Great Basin* is noted for its salt lakes. Many of the streams which flow from the surrounding mountains

are either absorbed by the sand or flow into lakes which have no outlet. Some of the valleys are made productive by irrigation.

401. The whole of the southern slope of the central plain of North America is within the United States. It is generally either level or undulating, rising gradually towards the mountains on the east and west. The valley of the *Mississippi* comprises the chief part of this section. Between the *Mississippi* and the *Rocky Mountains* are extensive prairies, which, in their natural state, were grass-covered, treeless plains except along the margins of the rivers.

VII. Rivers.—402. The principal rivers of the United States are comprised within three of the river systems of North America,—the *Atlantic*, the *Gulf of Mexico*, and the *Pacific*. A few small streams belong to the basin of the *St. Lawrence*. (See *North America*, VII.)

403. The most important rivers of the Atlantic slope are, the *Penobscot*, *Kennebec*, *Merrimac*, *Connecticut*, *Hudson*, *Delaware*, *Susquehanna*, *Potomac*, *James*, *Roanoke*, *Cape Fear*, *Pelee*, *Santee*, *Savannah*, and *Altamaha*. The *Hudson*, *Delaware*, and *Potomac* are the most important to navigation.

404. Many of these rivers, having a rapid course, furnish valuable water-power for manufactures. Waterfalls often occur where the streams descend from the highlands to the plain on the coast. The *Highlands of the Hudson*, *Trenton Falls* on the *Mohawk*, and the passage of the *Potomac* through the *Blue Ridge* at *Harper's Ferry*, are among the places attractive to travellers.

405. The most important rivers flowing into the Gulf of Mexico are, the *Chattahoochee*, *Alabama*, *Tombigby*, *Pearl*, *Mississippi*, *Sabine*, *Trinity*, *Brazos*, *Colorado*, and *Rio Grande*.

406. The *Mississippi* is much the largest river in the United States, and among the rivers of the world it is surpassed only by the *Amazon*. Its largest tributaries on the left bank are, the *Wisconsin*, *Illinois*, and *Ohio*; and those on the right are, the *Des Moines*, *Missouri*, *Arkansas*, *Washita*, and the *Red River*. The *Missouri* branch is much larger and longer than the *Mississippi*. At the junction it is a mile in breadth. It flows with a rapid current, and its waters are turbid. It is navigable nearly to *Great Falls*, 2500 miles from the junction.

Along the lower course of the *Mississippi* the land is very low, and is protected from inundations by embankments called *levees*. The river enters the Gulf by several channels.

The *Illinois* is connected with *Lake Michigan* by a canal.

Red River, in its upper course, flows through a deep narrow channel, 500 feet below the level of the banks. Further down, the river is obstructed by the *Great Raft*, which consists of drift-wood lodged in the channel for the distance of 70 miles.

407. The principal rivers of the Pacific slope are, the *Colorado*, *Sacramento*, and *Columbia*.

The *Colorado* flows through a rainless and desert region. It receives its waters from the *Rocky Mountains*. The *Gila* is the most important tributary.

The **Sacramento** flows through a fertile valley. The *San Joaquin* is its largest tributary.

The **Columbia** is the largest river on this slope. Its head waters are so near the sources of the Saskatchewan, that a traveller has remarked that he could fill his kettle from either without moving. Its basin, consisting of table-lands, is generally rugged and barren. There are many waterfalls and inaccessible gorges.

VIII. Lakes.—408. The great lakes of North America lie between the United States and British America. Michigan is wholly in the United States. (See *North America*, 36-40.)

These lakes are of great importance to the internal commerce of the country. They are connected by canals with the Mississippi, the Hudson, and the St. Lawrence.

409. The principal other lakes are, *Champlain*, between New York and Vermont; *Lakes George, Oneida, Cayuga, and Seneca*, in New York; *Winnepiscogee*, in New Hampshire; *Moosehead*, in Maine; *Okeechobee*, in Florida; and *Great Salt Lake*, in Fremont Basin. Shallow lakes are numerous in Louisiana. *Pontchartrain* is the largest.

Champlain is 120 miles in length, with an extreme breadth of 10 miles. It is drained by the Richelieu, which flows into the St. Lawrence, and is connected by the Champlain Canal with the Hudson.

Great Salt Lake is 70 miles long and 90 broad. Its waters are extremely salt.

IX. Soil.—410. Every variety of soil is found in the United States, from the most fertile to the barren desert.

The most fruitful portions are comprised in the central plain, the valleys of the Appalachian Mountains, and the region west of the Sierra Nevada. The table-lands on each side of the Rocky Mountains are generally barren deserts. The Atlantic coast district is not naturally fertile, but the northern half is highly cultivated. South of the mouth of the Hudson the sandy lowlands are covered with pine forests and extensive swamps. A marshy region in Florida is called the *Everglades*.

X. Climate.—411. The greater part of the country has a temperate climate. North of the 36th parallel the climate may be considered as cool temperate, south of this parallel as warm temperate. Intense heat is confined to the extreme south, severe cold to the mountain heights of the west.

The climate is healthful, except the low swampy regions of the south.

An extensive rainless region lies each side of the Rocky Mountains. (See *North America*, 45.)

XI. Minerals.—412. The mineral wealth is very great and varied.

The gold mines of California are among the richest in the world. Silver is also found in California, Nevada, New Mexico, and other places. Quicksilver is abundant in California.

Iron, coal, and petroleum are plentiful in Pennsylvania. In Missouri are mountains consisting almost wholly of iron ore. Coal is also abundant in several of the Western States.

Copper is plentiful in the neighborhood of Lake Superior; lead in Illinois, Wisconsin, and Iowa.

Abundance of granite is obtained in Maine, New Hampshire, and Massachusetts; good marble in Vermont. Salt springs are

numerous. Immense quantities of salt are manufactured from the springs at Syracuse, New York.

XII. Plants.—413. The cool temperate region of the north produces the various grains, vegetables, and forest-trees common in the Dominion. In the States lying between the great lakes and the 36th parallel the most important products are wheat, maize, flax, tobacco, apples, peaches, and grapes. The forests include the oak, chestnut, and walnut. Further south, cotton, rice, maize, sugar-cane, sweet-potatoes, oranges, figs, and bananas are cultivated; while in the forests are found the palmetto, magnolia, and live oak.



PALMETTO.

414. West of the Mississippi are vast plains called *prairies*, which in their natural state are covered with tall grass, and when cultivated yield all kinds of grain and vegetables in great abundance. The plateaus each side of the Rocky Mountains yield but little vegetation. In the south of this region are the agave, or century plant, and many kinds of cactus.

In California are immense pines and cypresses, some of which are over 300 feet high and 30 feet in diameter.

XIII. Animals.—415. The larger wild animals are now almost wholly confined to the region west of the Mississippi. The most important are the bison or buffalo, moose, deer, Rocky Mountain sheep, grizzly bear, black bear, wolf, and panther.

Wild turkeys, quails, and partridges are numerous on the prairies. Alligators are found in the marshes of the south. Rattlesnakes are common in many parts of the United States.

XIV. Inhabitants.—416. The population in 1870 was 39,000,000, and in 1890 about 62,750,000. The great majority of the inhabitants occupy the eastern side of the country and the central plain. The northern half of these

sections is more densely peopled than the southern. The Southern States are divided into large *plantations*, and the white inhabitants are often far apart.

417. The majority of the people are of British and Irish descent, but most of the nations of Europe have furnished colonists to this country. The negroes number about 5,000,000. They are principally found in the South, where in some States they form the majority of the population. They perform most of the labor on the plantations, and were formerly held as slaves. Slavery was abolished in 1866.

The Indians are supposed to number about 400,000; nearly all are in the western highlands.

Throughout the Northern and Western States, general education is regarded as one of the highest interests of the country. Free schools, supported by state funds and taxes on property, prevail. The lower classes of the South are very ignorant. Seminaries, colleges, law schools, medical schools, and public libraries are numerous in all the States.

Among the higher institutions, some of the most celebrated are *Harvard University*, Cambridge; *Brown University*, Providence; *Yale College*, New Haven; and *Princeton College*, Princeton.

All religious denominations have equal civil privileges. A remarkable community, called Mormons, live in the neighborhood of Great Salt Lake. A plurality of wives is one feature of their system.

XV. Divisions.—418. The United States consist of forty-four States, the *District of Columbia*, and five Territories, including the country called *Alaska*,—making fifty divisions.

The States and Territories may be grouped according to their situation and general features, as,—

North Atlantic and New England States; Middle Atlantic States; Southern States, comprising the *South Atlantic* and *South Central States*; **North Central States; Pacific and Highland States and Territories.**

XVI. Towns.—419. **Washington** (228,000), in the District of Columbia, is the capital of the United States. It is situated on the Potomac River, 110 miles from its mouth.

Washington has many fine buildings, among which are the *Capitol*, in which the members of Congress meet, the *Treasury Building*, the *General Post Office*, and the *Patent Office Building*.

420. Large cities are most numerous in the northern half of the Atlantic side of the country. **New York** is the largest city in America. Next in size among those of the United States are **Chicago**, **Philadelphia**, **Brooklyn**, **St. Louis**, **Boston**, **Baltimore**, **San Francisco**, **Cincinnati**, **New Orleans**. The population of these cities ranges from 1,513,000 in New York to 241,900 in New Orleans.

New York, **Philadelphia**, **Baltimore**, **New Orleans**, **Boston**, **Portland**, and **San Francisco** are the leading commercial ports. **Chicago**, **Milwaukee**, **Detroit**, **Buffalo**, and **Cleveland** are the great lake ports.

XVII. Industries.—421. The leading pursuits are *agriculture*, *manufacturing*, *mining*, *fishing*, and *commerce*.

The States bordering on the great lakes and in the valley of the Mississippi are among the finest agricultural countries in the world.

The New England and Middle States are the principal seats of manufactures, commerce, and fisheries.

In commerce the United States rank next to Great Britain. The greatest facility for the transport of goods is afforded by the rivers, lakes, canals, and railroads of the country. Railways connect all the principal cities of the Union, even crossing the Rocky Mountains and extending to the Pacific coast.

The interior has communication with the sea by three great water routes:—

- (1.) The Great Lakes and the St. Lawrence River.
- (2.) The Great Lakes, the Erie Canal, from Buffalo to Albany, and the Hudson River.
- (3.) The Mississippi River and its tributaries.

XVIII. Government.—422. The form of Government in the United States is **republican**. The chief executive officer, styled the **President**, is elected for the term of four years. The legislature, or **Congress**, consists of the *Senate* and the *House of Representatives*.

The people do not vote directly for the President, but each State chooses as many *electors* as it has members in Congress, and the electors choose the President.

The *Senate* consists of two members from each State, chosen every six years by the State legislatures, one-third being elected every second year. The number at present is eighty-eight.

423. The *House of Representatives* comprises three hundred and thirty-two members, chosen directly by the people for the term of two years. Each State is entitled to one member for every 135,300 inhabitants. Each organized Territory has one member, who has the privilege of speaking on matters relating to his Territory, but is not allowed to vote.

Each State has its own local government and legislature.

NEW ENGLAND STATES.

424. The colonization of the New England States was commenced in 1620, by the English Puritans, usually called the *Pilgrim Fathers*. The Pilgrims crossed the Atlantic in the *Mayflower*, and founded the settlement of Plymouth in Massachusetts.

This division comprises the following six States:—

Name.	Area in square miles.	Size of square in miles.	Population.	Chief Towns. (Capitals in Black Letter.)
MAINE	33,000	182	680,261	Augusta , Portland (36,000), Bangor (19,000), Lewiston.
NEW HAMPSHIRE.	9,300	96	375,327	Concord , Manchester (44,000), Portsmouth.
VERMONT.....	9,560	97	332,205	Montpelier , Burlington, Rutland.
MASSACHUSETTS...	8,315	91	2,223,407	Boston (446,597), Lowell (77,605), Cambridge (69,337), Fall River, Worcester (84,536), New Bedford, Salem, Lynn, Lawrence (44,559), Springfield, Taunton.
RHODE ISLAND....	1,250	35	345,343	Providence (132,099), Newport, Pawtucket.
CONNECTICUT.....	4,990	70	745,861	Hartford (63,182), New Haven (55,981), Bridgeport, Norwich, New London.

The coast abounds in fine harbors.

The surface is generally hilly. The *Green Mountains* are in Vermont, the *White Mountains* in New Hampshire. The latter are noted for fine scenery. **Mount Washington**, the highest peak, is a favorite resort of tourists.

The soil is not generally fertile, but is well cultivated. The climate is like that of neighboring Dominion Provinces.

425. **Maine** builds more ships than any other State in the Union. It exports lumber, granite, marble, lime, and potatoes.

Portland, its largest city, has a fine harbor, and is connected with Montreal by the Grand Trunk Railway. **Bangor** is a great lumber market.

426. **New Hampshire**, sometimes called the *Granite State*, is a mountainous country. Its products are cattle, butter, cheese, and potatoes. It also has important cotton and woollen manufactures.

427. **Vermont** takes its name from the Green Mountains, which are rendered verdant by their forests of pine and fir. Agriculture, grazing, and lumbering are the chief pursuits. Large quantities of maple sugar are made.

428. **Massachusetts** was the first State to oppose the British Government at the time of the Revolution. This State is among the foremost in manufactures, producing more than half the boots and shoes and one-third of the cotton and woollen goods made in the United States. It also takes the lead in the fisheries, and is second only to New York in commerce. It was the first State to establish free schools.

Boston, the largest city in New England, is noted for its commerce, public schools, and literary institutions; **Lowell**, **Lawrence**, and **Fall River** are the chief seats of cotton and woollen manufactures; **Worcester** has great variety of manufactures; **Lynn** is noted for its shoe factories; **Springfield**, for paper and firearms; **Holyoke**, for paper; **New Bedford** is extensively engaged in the whale fisheries; **Gloucester** and **Newburyport** in the cod and mackerel fisheries.

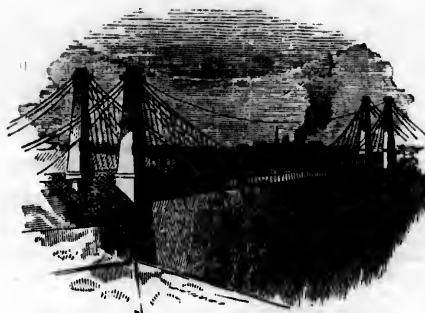
429. **Rhode Island** is the smallest State in the Union, but it is densely peopled. Numerous manufacturing towns and villages are situated along the banks of its streams, cotton and woollen goods being the chief products.

Providence, the seat of Brown University, was founded in 1636 by Roger Williams, the noted advocate of political and religious freedom. **Newport** is a celebrated watering-place.

430. **Connecticut** is noted for the variety of its manufactures. It makes more sewing-machines than any other State.

Newhaven, the seat of Yale College, is a beautiful city. **Hartford** manufactures firearms and machinery. **New London** is a great fishing port.

MIDDLE ATLANTIC STATES.



SUSPENSION BRIDGE OVER NIAGARA.

431. This section comprises the following seven States and the District of Columbia:—

Name.	Area in square miles.	Side of square in miles.	Population.	Chief Towns. (Capitals in Black Letter.)
NEW YORK	40,170	222	5,981,934	Albany (98,500), New York (1,513,500), Brooklyn (804,377), Buffalo (254,457), Rochester (183,327), Troy (60,600), Syracuse (87,877), Utica, Oswego, Kingston, Newburg, Poughkeepsie.
PENNSYLVANIA..	46,000	214	5,248,574	Harrisburg , Philadelphia (1,044,894), Pittsburg (238,473), Allegheny (104,967), Reading, Scranton, Lancaster, Erie.
NEW JERSEY....	7,815	88	1,441,017	Trenton , Newark (181,518), Jersey City (168,980), Paterson (78,300), Camden, Elizabeth, Hoboken.
DELAWARE	2,120	46	167,871	Dover , Wilmington (61,437).
MARYLAND	12,210	110	1,040,431	Annapolis , Baltimore (483,547).
VIRGINIA.....	42,450	206	1,648,911	Richmond (80,838), Petersburg, Norfolk.
WEST VIRGINIA.	24,730	157	760,448	Charleston , Wheeling (85,000).
COLUMBIA	70	8	229,706	Washington (228,000), Georgetown.

432. The surface is greatly varied. The coast district is generally low and sandy; it is quite narrow in the north, but is broader in the south, where the hilly country recedes further from the sea. An extensive marshy tract in the south-west of Virginia and the adjoining part of North Carolina is called the *Great Dismal Swamp*.

The interior is mountainous. The principal ranges are, the *Adirondacks* and *Catskill* in New York, and the *Blue Ridge* and the *Alleghany* in Pennsylvania.

The chief rivers are, the *Hudson*, *Mohawk*, *Delaware*, *Susquehanna*, *Potomac*, *Rappahannock*, *James*, *Shenandoah*, *Alleghany*, *Monongahela*, *Kanawha*, and *Ohio*.

The climate is temperate in the north, and warm in the south.

The pursuits are agriculture, manufactures, commerce, and mining.

433. **New York** was first colonized by the Dutch, but was taken by the English in 1662. It exceeds every other State in population, wealth, and commerce. It is also among the first in manufactures. Vast quantities of salt are made from salt springs. A great deal of flour is made in this State from grain brought over the lakes from the west. New York also produces more butter and cheese than any other State.

Niagara Falls, Trenton Falls, the Highlands of the Hudson, and Lake George are among the places interesting to tourists.

434. **New York City**, on Manhattan Island, has a fine harbor, and ranks next to London and Liverpool in commercial importance. The chief trade of the grain-growing States of the Upper Mississippi passes through this city. It has many magnificent buildings, and its Central Park is a large and beautiful pleasure-ground. **Brooklyn**, on Long Island, and **Jersey City**, in New Jersey, are connected with New York by short ferries, the three places really forming one great city. Many of the business men of New York reside in Brooklyn. **Albany**, on the Hudson, the capital of the State, is connected with Lakes Erie and Champlain by canals. At **Buffalo** the grain from the west is transferred from vessels to canal boats. **Rochester** and **Oswego** are noted for the manufacture of flour; **Syracuse**, for salt. **Troy** is noted for its iron-works; **West Point**, for its Military Academy. **Saratoga** is a noted watering-place. **Poughkeepsie** is the seat of Vassar Female College; **Ithaca**, of Cornell University.

435. **Pennsylvania** was colonized by the English Quaker William Penn. It is a populous and wealthy State. Its chief products are grain, iron, coal, petroleum, and manufactures. It takes the lead in iron manufactures, produces three-fourths of the coal and nearly all the petroleum obtained in the United States, and is next to Massachusetts in woolens and shoes.

Philadelphia ranks first among the cities of the United States in the value of its manufactures, and third in population. It exports more coal than any other city. **Pittsburg** and **Allegheny**, at the head of steam navigation on the Ohio, are in the centre of the coal and iron region, and rank first among the cities of the United States in the manufacture of iron.

436. **New Jersey** is chiefly engaged in agriculture and manufactures. Vegetables, peaches, and other fruits, are raised abundantly for the markets of the neighboring large cities.

Newark manufactures jewellery, patent leather, and rubber goods.

Trenton, the capital, **Jersey City**, and **Paterson** are important manufacturing towns.

437. **Virginia** was the seat of the earliest English colony

in America. It has a fertile soil and a beautiful climate, and is rich in iron and coal. Agriculture is the chief pursuit, and the staple products are tobacco, wheat, and Indian corn.

The *Natural Bridge* in the valley west of the Blue Ridge is a natural arch 200 feet high and 90 feet wide.

438. **Richmond**, at the head of navigation on the James River, has large tobacco manufactories and many flour mills. It is noted as the capital of the "Confederate States" during the closing years of the Civil War. **Norfolk** has a superior harbor.

439. **West Virginia**, adhering to the North during the Rebellion, was formed into a separate State in 1862. Iron, coal, salt, and petroleum are plentiful.

This State is well adapted to stock-raising. It has beautiful mountain scenery.

Among the places of interest is *Harper's Ferry*, where the Potomac breaks through the Blue Ridge.

Wheeling, on the Ohio, has important manufactures and trade.

440. The **District of Columbia** comprises about 70 square miles on the east side of the Potomac. It is under the immediate control of Congress, but has no representative.

SOUTHERN STATES.

441. This section, together with the States of Virginia and Missouri, formed the Southern Confederacy during the period of the Civil War (1861-65). It consists of the following ten States and one Territory :-

Name.	Area in square miles.	Side of square in miles.	Population.	Chief Towns. (Capitals in Black Letter.)
NORTH CAROLINA.	52,250	230	1,617,340	Raleigh , Wilmington, Fayetteville.
SOUTH CAROLINA..	30,570	175	1,147,161	Columbia , Charleston (54,592), Georgetown.
GEORGIA.....	59,475	244	1,834,368	Atlanta , Milledgeville, Savannah (41,760), Augusta.
FLORIDA.....	58,680	242	390,345	Tallahassee , Key West, St. Augustine, Jacksonville.
ALABAMA.....	52,250	228	1,508,000	Montgomery , Mobile (31,600), Selma.
MISSISSIPPI.....	46,810	216	1,284,887	Jackson , Natchez, Vicksburg.
LOUISIANA.....	48,720	220	1,116,828	New Orleans (241,995), Baton Rouge.
TEXAS.....	268,780	515	2,232,220	Austin , Galveston, Houston, San Antonio.
ARKANSAS.....	63,850	232	1,125,385	Little Rock .
TENNESSEE.....	42,050	205	1,708,723	Nashville , Memphis (64,586), Knoxville.
INDIAN TERRITORY.....	30,980	176	77,000	Tahlequah .

442. The coast is low and marshy, is bordered by low, sandy islands, and has but few harbors. The interior is more elevated. The *Cumberland Mountains* cross Tennessee.



COTTON-PICKING.

and terminate in the north of Alabama. The *Blue Mountains* cross the west of North Carolina, and terminate in the north of Georgia. The *climate* is mild in the north and hot in the south. There are few large cities, and little attention is given to manufactures.

443. **North Carolina** produces rice, cotton, tobacco, and sweet potatoes. Its extensive pine forests yield timber, turpentine, tar, pitch, and rosin.

Wilmington exports the various products of the State.

444. **South Carolina**, sometimes called the "Palmetto State," produces more rice than any other State. Cotton is also a staple product.

Charleston is one of the largest cities of the South. It is noted as the place where the Rebellion began in 1861.

445. **Georgia** is one of the most progressive of the Southern States, and ranks first in manufactures. Its products are cotton, Indian corn, rice, and sweet potatoes.

Savannah has a large trade in the products of the State. **Atlanta** is an important railway centre, and is the largest city in Georgia.

446. **Florida** has an almost tropical climate. The inhabitants are chiefly in the north. The *Everglades* of the south are extensive shallow lakes filled with islands. The products of the State are cotton, sugar-cane, rice, and tropical fruits.

St. Augustine is the oldest town in the United States. **Key West**, on an island of the same name, is near a dangerous coast, and many of its inhabitants are wreckers.

447. **Alabama** is an important cotton-producing State.

Mobile, the largest city, is second to New Orleans in the export of cotton.

448. **Mississippi** ranks first in the production of cotton. A large part of the country is low, and is protected from inundations of the Mississippi by levees.

Vicksburg and **Natchez** are the most important towns.

449. **Louisiana** has extensive lowlands protected by levees. It produces nine-tenths of the sugar made in the United States. Cotton and rice are the other staples.

New Orleans, the capital, situated on the Mississippi, 100 miles from its mouth, is the greatest cotton market in the world. Most of the exports and imports of the States bordering on the Mississippi pass through this city.

450. **Texas** is the largest State in the Union, and its population has increased rapidly through immigration. The physical features are varied. In the south-east the country is low, and near the coast it is swampy. The products in this district are tropical, including rice, sugar-cane, oranges, and pine-apples. Through the middle of the State are extensive rolling prairies of great fertility, yielding cotton, tobacco, and maize. This is also a great grazing country, and sustains vast numbers of cattle, horses, and sheep. The north-western part of the State is a desert plateau.

Galveston has a large trade in cotton.

451. **Arkansas** produces cotton, Indian corn, tobacco, wheat, and oats. Stock-raising is an important industry.

Little Rock, on the Arkansas River, is the largest city.

452. **Tennessee** is varied in its physical features and products. The eastern part is mountainous, and produces coal, iron, and timber. In Middle Tennessee, which is the most populous section, the raising of Indian corn and tobacco, and the care of live stock, claim the chief attention. Cotton and tobacco are the staples in the west.

Memphis, on the Mississippi, is an important cotton and grain market. **Nashville** is the largest city.

453. **Indian Territory** has been set apart by Congress as the home of certain tribes of Indians.

Some of the Indians are partially civilized, and cultivate the soil.

NORTH CENTRAL STATES AND TERRITORIES.

454. This section of the United States is remarkable for the fertility of its soil, for its mineral wealth, and the rapid

increase of its population. It comprises the following thirteen States:—

Name.	Area in sq miles.	Population.	Chief Towns. (Capitals in Black Letter.)
KENTUCKY.....	40,400	1,855,430	Frankfort, Louisville (161,000), Covington, Newport, Lexington.
OHIO.....	41,060	3,666,710	Columbus (90,400), Cincinnati (290,000), Cleveland (261,500), Toledo (82,900), Dayton (58,868), Sandusky, Springfield, Zanesville.
INDIANA.....	36,350	2,180,030	Indianapolis (107,445), Evansville (50,674), Fort Wayne, Terre Haute, New Albany, Lafayette.
ILLINOIS.....	56,650	3,818,536	Springfield, Chicago (1,098,570), Quincy, Peoria, Bloomington, Aurora, Rockford, Galesburg.
MICHIGAN.....	58,915	2,080,702	Lansing, Detroit (305,839), Grand Rapids, Jackson, East Saginaw, Kalamazoo.
WISCONSIN.....	56,040	1,683,607	Madison, Milwaukee (204,150), Fond du Lac, Oshkosh.
MINNESOTA.....	83,365	1,300,017	St. Paul (133,150), Minneapolis (164,738), Pembina.
IOWA.....	56,025	1,906,729	Des Moines, Dubuque (30,000), Davenport, Burlington, Keokuk, Council Bluffs.
MISSOURI.....	60,415	2,077,030	Jefferson City, St. Louis (418,124), Kansas City, St. Joseph.
KANSAS.....	82,080	1,423,485	Topeka, Leavenworth, Atchison.
NEBRASKA.....	77,510	1,056,793	Lincoln, Omaha.
NORTH DAKOTA.....	68,645	182,425	Bismarck, Fargo.
SOUTH DAKOTA.....	79,800	327,848	Pierre, Sioux Falls.

455. These States are situated mainly in the basin of the Mississippi, and comprise the prairie lands and the sloping plains on the east of the Rocky Mountains. The climate in the north is subject to extremes of heat and cold; in the south it is warm temperate.

456. **Kentucky** is noted for its caverns, of which *Mammoth Cave* is the most remarkable. It ranks first among the States in the production of tobacco and hemp. Wheat, Indian corn, and flax are staple products. Cattle, horses, swine, and sheep are reared in large numbers.

Louisville has a large trade in flour, pork, hemp, and tobacco.

457. **Ohio** has immense sources of wealth in its soil and minerals, and great facilities for trade by lake, river, and railway. Cattle, horses, hogs, and sheep are numerous. The State ranks first in the production of wool. Grain, grapes, and peaches are raised in large quantities.

Cincinnati, on the Ohio, has a large trade in grain and pork, and is extensively engaged in manufactures. **Cleveland** is one of the five principal lake ports, and is an important commercial and manufacturing city.

458. **Indiana** yields immense crops of wheat, Indian corn, oats, and potatoes. Cattle, sheep, and hogs are numerous. The State is rich in coal and iron.

Indianapolis is a great railway centre, and is one of the most prosperous cities of the West.

459. **Illinois** ranks first among the States in the production of wheat and Indian corn. Stock-raising is an important industry. Lead and coal are abundant.

460. **Chicago**, on Lake Michigan, is one of the greatest grain, lumber, and pork markets in the world. It has every facility for trade by means of railways and the great lakes. The Chicago River is connected with the Illinois by a canal, giving a water-road to the Mississippi. Chicago is supplied with water taken from Lake Michigan, two miles from the shore, and conducted by a tunnel under the bed of the lake.

461. **Michigan** consists of two peninsulas. The northern division is rugged and sterile, but is rich in copper and iron, and has extensive pine forests. The "Pictured Rocks," on the shores of Lake Superior, are remarkable for their curious forms and varied colors. The southern part of the State is very fertile.

Detroit has a fine harbor, and has important manufactures and a large trade.

462. **Wisconsin** has many beautiful lakes and waterfalls in the north. The south is a prairie country. Grain, lumber, iron, and lead are the chief products.

Milwaukee is one of the five great lake ports, and has a large trade in grain and lumber.

463. **Minnesota** is situated on the "height of land" between the northern and the southern slopes of the central plain. Large forests cover the northern part of the State.

St. Paul, at the head of navigation on the Mississippi, is the capital. **Minneapolis**, on the Mississippi, near the Falls of St. Anthony, manufactures large quantities of lumber and flour.

464. **Iowa** is a fertile prairie State, yielding wheat, Indian corn, flax, and dairy produce. Stock-raising is an important industry. Lead and coal are abundant.

Des Moines is the largest city. **Dubuque** is the centre of lead mines.

465. **Missouri** is a prairie country north of the Missouri and Osage Rivers, and hilly on the south of these rivers. The products are wheat, Indian corn, hemp, and tobacco. Iron, lead, and coal are abundant.

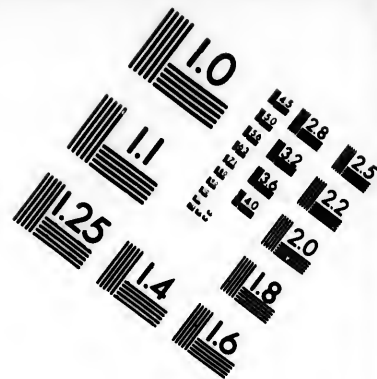
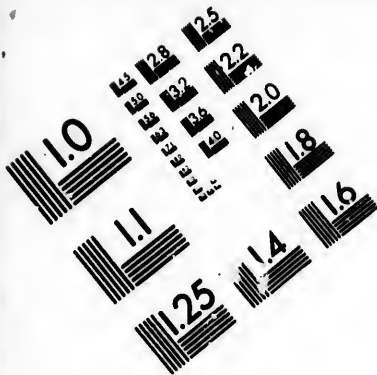
St. Louis is one of the ten great cities of the United States. It has extensive iron manufactures and flour mills.

466. **Kansas** is an undulating plain. The west is a fine grazing country, and stock-raising is a leading industry. Agriculture and coal-mining are the chief industries in the east.

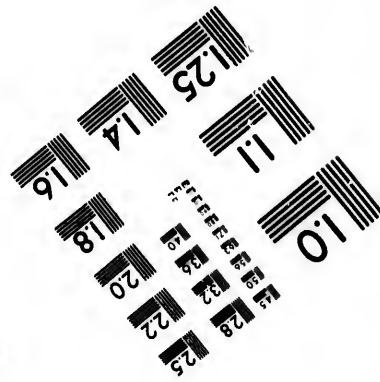
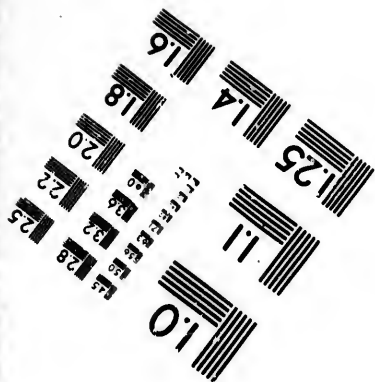
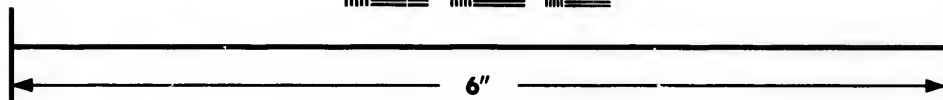
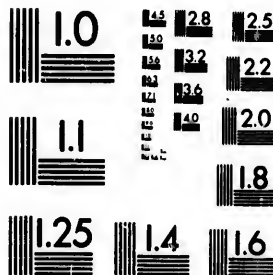
Topeka is a railway centre. **Leavenworth** is an important city.

467. **Nebraska** resembles Kansas in physical features and industries. The valley of the *Platte* is very fertile.





**IMAGE EVALUATION
TEST TARGET (MT-3)**



**Photographic
Sciences
Corporation**

23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503



Omaha, the largest city, is connected with Council Bluffs in Iowa by an iron railway bridge. The *Union and Central Pacific Railway* extends westerly from Omaha to San Francisco.

468. **North and South Dakota** have extensive prairies. Owing to excessive dryness, the climate is not suited to agriculture. Fearful blizzards sometimes sweep over these States in the winter. The mining of gold and tin in the region of the Black Hills is of some importance.

STATES AND TERRITORIES OF THE HIGHLANDS AND THE PACIFIC.

469. This section of the United States is situated on the Western Highlands and the Pacific slope. It is noted for the grandeur of its physical features, and the richness of its gold and silver mines. It comprises the following eight States and four Territories:—

Name.	Area in sq. miles.	Population.	Chief Towns. (Capitals in Black Letter.)	
STATES.	CALIFORNIA..	158,360	1,204,000	
	OREGON.....	96,030	312,490	
	NEVADA.....	110,700	44,327	
	COLORADO....	103,925	410,975	
	WASHINGTON.	69,180	347,510	
	IDAHO.....	84,800	84,229	
	MONTANA.....	140,080	131,760	
	WYOMING.....	97,883	60,589	
	UTAH.....	84,970	206,500	
	ARIZONA.....	113,010	59,691	
TERRIT.	NEW MEXICO.	122,600	144,830	
	ALASKA.....	577,390	36,500	
				{ Sacramento, San Francisco (298,000), Oakland, Stockton, San José.
				{ Salem, Portland (47,000), Carson City, Virginia City.
			{ Denver (126,186), Olympia.	
			{ Boise City.	
			{ Helena.	
			{ Cheyenne.	
			{ Salt Lake City (45,000).	
			{ Tucson.	
			{ Santa Fé (6,000).	
			{ Sitka.	

470. The climate on the Pacific slope is mild and humid; on the table-lands between the Rocky Mountains and the western ranges it is very dry, and agriculture can be carried on only by means of irrigation.

471. **California** is famed for the grandeur of its mountain scenery, and for the richness and variety of its products. The Sierra Nevadas are wild and rugged, and cleft by deep chasms, along which rush foaming streams. Their western slopes have long been celebrated for their productive gold-mines.

The valley of the Sacramento and San Joaquin Rivers is one of the richest agricultural districts in the world, yielding all kinds of grain, vegetables, and fruit of temperate climes in the greatest profusion. The south is tropical, producing oranges, olives, figs, and the mulberry. The mountain valleys afford rich pasturage.

The exports are wheat, gold, wine, quicksilver, and wool.

San Francisco, the largest city west of the Mississippi, has a superior harbor, the entrance to which is called the *Golden Gate*. San Francisco has an extensive trade with the countries of Eastern Asia and with the Pacific Isles.

472. **Oregon** comprises arid highland plains in the east, and fertile valleys and mountain slopes clothed with luxuriant forests in the west. The inhabitants are chiefly in the valley of the *Willamette*. Stock-raising and salmon-fishing are leading industries. Wheat is one of the most important products.

Portland, on the Willamette, is the largest city.

473. **Nevada** is a highland State, noted for the dryness of its climate and the richness of its silver-mines. In the west the native plants are chiefly sage-brush and grasses.

Virginia City, 6000 feet above the sea-level, is a famous mining centre. It has shafts over 3200 feet in depth.

474. **Colorado** is also a highland State. The eastern part is in the basin of the Mississippi; the western is crossed by the Rocky Mountains. Walled in by lofty spurs of these mountains are beautiful basin-shaped valleys called "*the Parks*." Colorado is rich in minerals, and ranks first among the States in the production of silver. Mining and stock-raising are the leading industries. Irrigation is essential to successful agriculture.

Denver, the largest city, is an important railway centre.

475. **Washington** resembles Oregon. Its chief industries are agriculture, lumbering, mining, stock-raising, and salmon-fishing.

Seattle, the largest city, is an important sea-port.

476. **Idaho, Montana, and Wyoming** are highland countries. Their leading industries are gold-mining and stock-raising. These States are noted for remarkable physical features.

477. **Fire-Hole Basin**, in the valley of the Madison River, a tributary of the Missouri, has hundreds of boiling springs. The Great Geyser throws boiling water 800 feet. The Yellow Stone River flows for miles through a deep canyon, the rocks rising perpendicularly from 1000 to 2000 feet; and at the Great Falls of the Yellow Stone the river leaps over a precipice, making a perpendicular descent of 450 feet.

478. **National Park** is a district, equal to a square of 60 miles, around Yellow Stone Lake, in the north-west of Wyoming, set apart by Congress as a national reserve. Among its wonders are rugged mountains, deep canyons, rushing streams, wonderful waterfalls, hot springs, and boiling geysers.

479. **Utah** yields silver, copper, and coal. Agriculture is successfully carried on in the section west of the Wahsatch Mountains, the crops being watered by irrigation. The Mormons form the majority of the population of Utah.

Salt Lake City is the Mormon capital. Streams of water brought from the neighboring mountains flow through its principal streets.

480. **Arizona** is remarkable for the dryness of its climate, and for the deep canyons of the Colorado. It is rich in silver, copper, and gold. Mining is the chief industry.

481. **New Mexico** is an arid plateau. The inhabitants are principally a mixed race of Indian and Spanish origin.

They reside chiefly along the valley of the Rio Grande, and water their lands by irrigation. Mining and stock-raising are the chief industries.

Santa Fé, 6840 feet above the sea-level, is the capital.

482. Alaska comprises the large peninsula between the Arctic and Pacific Oceans, and a strip of coast country about thirty miles wide north of British Columbia.

The Pacific coast waters are studded with islands, among which are *Sitka*, *Kodiak*, the *Alcution Isles*, *St. George*, and *St. Paul*. The mountain range near the coast has many lofty volcanic

peaks, of which *Mount St. Elias* is the highest known point in North America.

483. The climate on the Pacific coast is mild and humid; in the interior the extremes of heat and cold are very great.

The southern section of the coast country is for the most part covered with dense forests. Vegetables, as cabbages and turnips, grow luxuriantly, and barley and oats can be cultivated. In some parts there are extensive prairies, which in summer are covered with tall grass and gay-colored flowers.

484. The animals of Alaska are its chief source of wealth. The most important are the seal, otter, fox, mink, beaver, marten, and bear. The coast waters abound in fish.

The United States Government derive a large revenue from the



ESQUIMAUX VILLAGES.

seal fishery, paid as rental by a company. The Pribiloff Islands are the principal centres of the seal fishery.

485. The inhabitants are mainly Indians and Esquimaux, who subsist chiefly on animal food.

The most important places are, *Unalaska*, *St. Paul's Harbor*, *Sitka*, and *Fort Wrangell*.

EXERCISE I.

[MAP OF THE UNITED STATES.]

Point out and describe the coast waters, capes, islands, mountains, rivers, and lakes of the United States. Bound the various States and Territories. Point out the capitals and principal cities, and state where they are situated. Name the States bordering on the Mississippi. Compare the area of each of the New England States with that of your own Province.

QUESTION.—A ship sails from Boston to New Orleans and back: what freights would she probably carry?

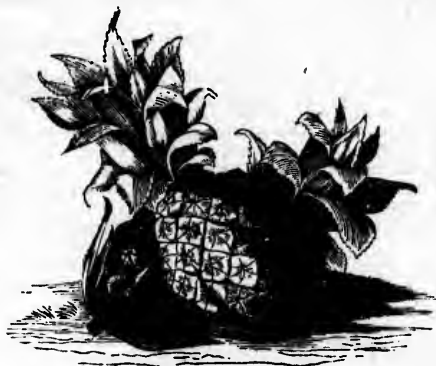
EXERCISE II.

Draw a map of the United States.

EXERCISE ON THE GLOBE.—When it is 12 o'clock noon at Portland, what time is it at San Francisco?

MEXICO.

Position and History.—**486.** Mexico is a large country to the south of the United States, and possesses great agricultural and mineral resources. Through bad government



PINE-APPLE.

and lack of enterprise on the part of its inhabitants, it is a weak, unprogressive State. The country is noted for insurrections and frequent political changes.

At the time of its discovery, Mexico was inhabited by a nation of Indians called Aztecs, who were highly civilized and possessed great wealth.

In 1521, after two years of cruel and treacherous warfare, Cortez with a band of Spaniards conquered the Aztecs, and destroyed *Tenochtitlan*, their capital.

Mexico gained its independence from Spain in 1822, and established a republican government in 1824. Since this date, nearly half the original territory, including Texas, New Mexico, Arizona, and Upper California, has been annexed to the United States.

In 1862, Mexico was conquered by a French army, and formed into an empire, under the Austrian prince Maximilian. On the withdrawal of the French army in 1867, Maximilian, unable to hold his position against opposing factions, was taken prisoner and shot by order of Juarez.

487. The area of Mexico is about one-fifth that of the Dominion of Canada (744,000 square miles).

Surface.—488. The greater part of Mexico is table-land, elevated from 6000 to 8000 feet.

The plateau rises precipitously near the Pacific coast. From the broader plain on the east the ascent is less abrupt.

In the northern part of the country there are three mountain ranges—the *Cordillera de Coahuila*, on the east; the *Cordillera de Sonora*, on the west; and the *Sierra Madre*, in the middle. In a line east and west, near the 19th parallel, several volcanic peaks rise like colossal mounds from the plateau. The most important are *Orizaba* (17,374 feet), *Popocatepetl* (17,720 feet), and *Iztaccihuatl* (15,705 feet).

489. The rivers of Mexico are generally unnavigable on account of their rapid current.

The most important river is the *Rio Grande del Norte*, which is navigable 70 miles, to Matamoras.

Small lakes are numerous on the plateau. *Lake Chapala*, about 90 miles in length, is the largest.

490. The climate varies according to the elevation, from tropical heat on the low coasts, to the regions of perpetual snow on the extreme mountain heights.

The hot, moist region of the Gulf coast, extending about 50 miles inland, is very unhealthy. The table-lands often suffer from drought.

491. The minerals are silver, gold, quicksilver, iron, copper, tin, lead, and zinc.

The silver-mines were long accounted the richest in the world. They are less productive than formerly.

492. **Vegetation** is diversified according to the elevation.

The lowlands yield mahogany, dye-woods, vanilla, cotton, coffee, sugar-cane, maize, indigo, pepper, bananas, and various tropical fruits. The table-lands of the interior produce the forest trees, grains, and fruits of temperate regions.

Large tracts of country on the table-lands are too dry for cultivation, but are valuable as pasture-lands, sustaining large numbers of cattle, horses, mules, and sheep. Hemp is an important product of Yucatan. The agave, or American aloe, is cultivated for its sap, which, when fermented, yields the favorite Mexican beverage called pulque.

493. Immense herds of the bison, musk-ox, and mustang or wild horse, roam over the northern plains. The horse was introduced by the Spaniards. Alligators, rattlesnakes, and myriads of insects are found on the lowlands. The cochineal insect is of great commercial value.

Inhabitants.—494. The population is estimated at 10,460,000, of which the Indians form nearly five-eighths, Spaniards one-eighth, and mixed races one-fourth.

The Spaniards are generally the most wealthy class. Many of the Indians are in a very degraded condition.

Nearly all the inhabitants are Roman Catholics.

Education is greatly neglected.

495. Mexico contains many remains of its ancient civilization, such as aqueducts, statues, pyramids, and other works of art. The most remarkable are the ruins of *Chichen* in Yucatan, and the *Pyramid of Cholula*, a few miles east of Puebla. The latter is built of sun-dried brick, is 1423 feet square at the base, and is 164 feet high.

Towns.—496. All the large towns are situated on the table-land. **Mexico City**, the capital, is 7470 feet above the sea, and is overlooked by lofty volcanic mountains.

Mexico (330,000) is a beautiful and wealthy city, containing many magnificent public buildings. Churches and convents are numerous. The city is on the margin of a lake, and occupies the site of the Aztec capital.

497. There are many other large cities, as **Guadalajara**, **Puebla**, **Guanajuata**, **Queretaro**, **Zacatecas**, **San Luis**, **Colima**, and **Merida**. The principal port on the east is **Vera Cruz**, on the Gulf of

Mexico. Vera Cruz has a poor harbor, and is very unhealthy, being seldom free from yellow fever. Matamoras is a river port. The principal ports on the Pacific coast are Mazatlan, San Blas, and Acapulco.

498. The leading industries are agriculture and mining, but every kind of business is greatly neglected.

499. The exports consist of the natural products, including silver and other metals, vanilla, sarsaparilla, cochineal, mahogany, and hides. The imports comprise various kinds of manufactured goods and fish.

500. A railway, constructed with wonderful engineering skill, connects Mexico City with Vera Cruz.

501. The Government is republican; it is weak and ineffective.

CENTRAL AMERICA.

History.—502. Central America, so called from its position, was discovered by Columbus in 1502. It continued a dependency of the Spanish Crown until 1823, when it threw off the Spanish yoke and formed itself into a Federal Republic, consisting of five States. The union was dissolved in 1839. Since this date the various States have been disturbed by almost constant internal strife.

Position.—503. Central America naturally embraces the whole country between the Isthmuses of Tehuantepec and Panama. Its political bounds are less extensive, Yucatan belonging to Mexico, and the extreme south, including the Isthmus of Panama, to Colombia in South America. It is wholly in the torrid zone.

504. The physical features, products, and population are similar to those of Mexico.

The table-land becomes quite low towards the Isthmus of Panama. Cone-shaped volcanoes are numerous. *Agua*, 15,000 feet high, is the greatest elevation.

505. The *San Juan*, flowing from Lake Nicaragua to the Caribbean Sea, is the most important river. *Lake Nicaragua* is about 110 miles in length. It is proposed to construct a ship canal by way of the *San Juan* and *Lake Nicaragua*, connecting the Pacific Ocean and the Caribbean Sea. The total distance is about 180 miles.

506. The climate on the low coast is very unhealthy, especially in the wet season, which begins towards the end of May. The interior is dry and healthy, but is subject to violent earthquakes.

507. A large proportion of the inhabitants are Indians and Mestizos. Nearly all are Roman Catholics.

Divisions.—508. Central America comprises the five republics, *Guatemala*, *Honduras*, *San Salvador*, *Nicaragua*,

and *Costa Rica*; and the British Province of *Honduras*.

Name.	Area in square miles.	Side of square in miles.	Population.	Chief Towns (Capitals in Black Letter.)
GUATEMALA	40,800	202	1,400,000	Guatemala (86,000), Quetzaltenango, St. Thomas.
HONDURAS	47,100	217	432,000	Tegucigalpa , Comayagua, Omas, Truxillo, San Salvador (17,000), Copetepaque, Acajutla.
SAN SALVADOR	7,400	86	664,500	Managua , Leon (25,000), Realejo, San Juan, Greytown.
NICARAGUA	58,200	241	350,000	San José (12,000), Cartago, Puntas Arenas.
COSTA RICA	21,500	146	205,700	Belize .
BRITISH HONDURAS	7,562	87	27,450	

509. As in Mexico, the large towns are on the table-land. Many of them have suffered greatly at different times from earthquakes. To guard against this danger, the houses are generally low.

510. *Guatemala* lies principally along the Pacific coast. It is noted for its numerous active volcanoes.

Guatemala, the capital, manufactures muslins, artificial flowers, and embroidery. *Old Guatemala*, 24 miles distant, was destroyed by an earthquake in 1773.

511. *Honduras* is well suited to agriculture, abounds in minerals, and has fine forests of mahogany. The *Bay Islands* belong to this State.

Tegucigalpa is the capital. *Omas* is very hot and unhealthy.

512. *San Salvador*, wholly on the Pacific coast, is the smallest State in Central America.

San Salvador, the capital, was visited by an earthquake in 1854. Every building, with a single exception, was thrown down, and 5000 people lost their lives.

513. *Nicaragua*, the largest State of Central America, extends from sea to sea. It has large forests of mahogany, logwood, and other valuable trees. Extensive pasture-lands support large numbers of cattle.

Managua is the capital. *Leon* is the largest city.

514. *Costa Rica* is the most southerly and the most prosperous State of Central America.

San José is the capital. *Cartago* was laid in ruins by an earthquake in 1841.

515. *British Honduras*, or *Belize*, on the west coast of the Bay of Honduras, yields tropical products in profusion. It exports mahogany, logwood, and sarsaparilla. Nearly all the inhabitants are colored. The country is governed by a Superintendent who is subordinate to the Governor of Jamaica.

Belize, the capital, contains nearly half the whole population.

An important British trade with the States of Central America is carried on through Belize.

516. The chief **industries** of Central America are agriculture, mining, and the exportation of mahogany, logwood, and other dye-stuffs.

The **exports** include mahogany, logwood, cochineal, indigo, cotton, sarsaparilla, gums, coffee, cocoa, and fruit.

517. The form of **government** in the five independent States is republican. The governments are wanting in strength and vigor. The roads and other public works are greatly neglected, and the resources are almost wholly undeveloped.

WEST INDIES



SUGAR PLANTATION.

518. These islands, noted for the variety and profusion of their vegetable products, include the first discoveries of Columbus in the New World. The name *West Indies* originated through the erroneous opinion entertained by Columbus and others of his time that the archipelago was near India, on the south of Asia.

The West Indies were sometimes called *Antilles* or *Opposite Isles*, from their position with respect to the continent of America.

Position.—519. The West Indies are situated on the east of the Gulf of Mexico, between North and South America. Nearly all the islands are in the torrid zone.

Groups.—520. The West Indies comprise three groups—the *Bahamas*, the *Great Antilles*, and the *Little Antilles*.

521. The **Bahamas** or *Lucayos* lie to the south-east of

Florida, from which they are separated by the Gulf Stream. Including rocky islets, they are about 500 in number. The principal are, *Great Bahama*, *Abaco*, *Eleuthera*, *New Providence*, *Long Island*, *Andros*, *Sau Salvador*, *Watling's Island*, *Inagua*, *Turk's* and *CaiCos Islands*.

522. The **Great Antilles**, consisting of *Cuba*, *Haiti*, *Porto Rico*, and *Jamaica*, lie to the east of the peninsula of Yucatan, between 18° and 23° N. lat.

523. The **Little Antilles** are on the east of the Caribbean Sea, extending in a semicircular line from the east of Porto Rico to the coast of South America. They are usually divided into three groups—the *Virgin Islands*, in the north; the *Leeward Islands*, in the middle; and the *Windward Islands*, in the south.

524. The **Virgin Islands** comprise *Tortola*, *Ancada*, *Virgin Gorda*, *Culebra*, *Bieque*, *St. Thomas*, *St. John*, and *Santa Cruz*.

525. The **Leeward Islands**—*Anguilla*, *Barbuda*, *St. Christopher*, or *St. Kitt's*, *Nevis*, *Antigua*, *Montserrat*, *Dominica*, *Guadeloupe*, *Marie-Galante*, *Desirade*, *St. Martin*, *Saba*, *St. Eustatius*, and *St. Bartholomew*.

526. The **Windward Islands**—*St. Lucia*, *St. Vincent*, *Barbadoes*, *Grenada*, *Tobago*, *Trinidad*, and *Martinique*.

Curaçoa, *Oruba*, and *Buen Ayre*, lie along the coast of South America. Viewed with respect to the trade-wind, the Leeward Islands are properly windward.

Area.—527. The total area of the West Indies is estimated to be about 92,000 square miles.

Cuba comprises more than half the whole area, and the four Great Antilles seven-eighths of the whole.

528. The **surface** is varied. The Antilles are generally mountainous. The Bahamas are low, and of coralline formation.

An elevated mountain-chain runs lengthwise through the Great Antilles. The *Sierra del Cobre*, in the east of Cuba, have an extreme elevation of 8000 feet; the *Blue Mountains* of Jamaica, 7000 feet. Many of the smaller islands rise to the height of 4000 or 5000 feet, and some of them have active volcanoes.

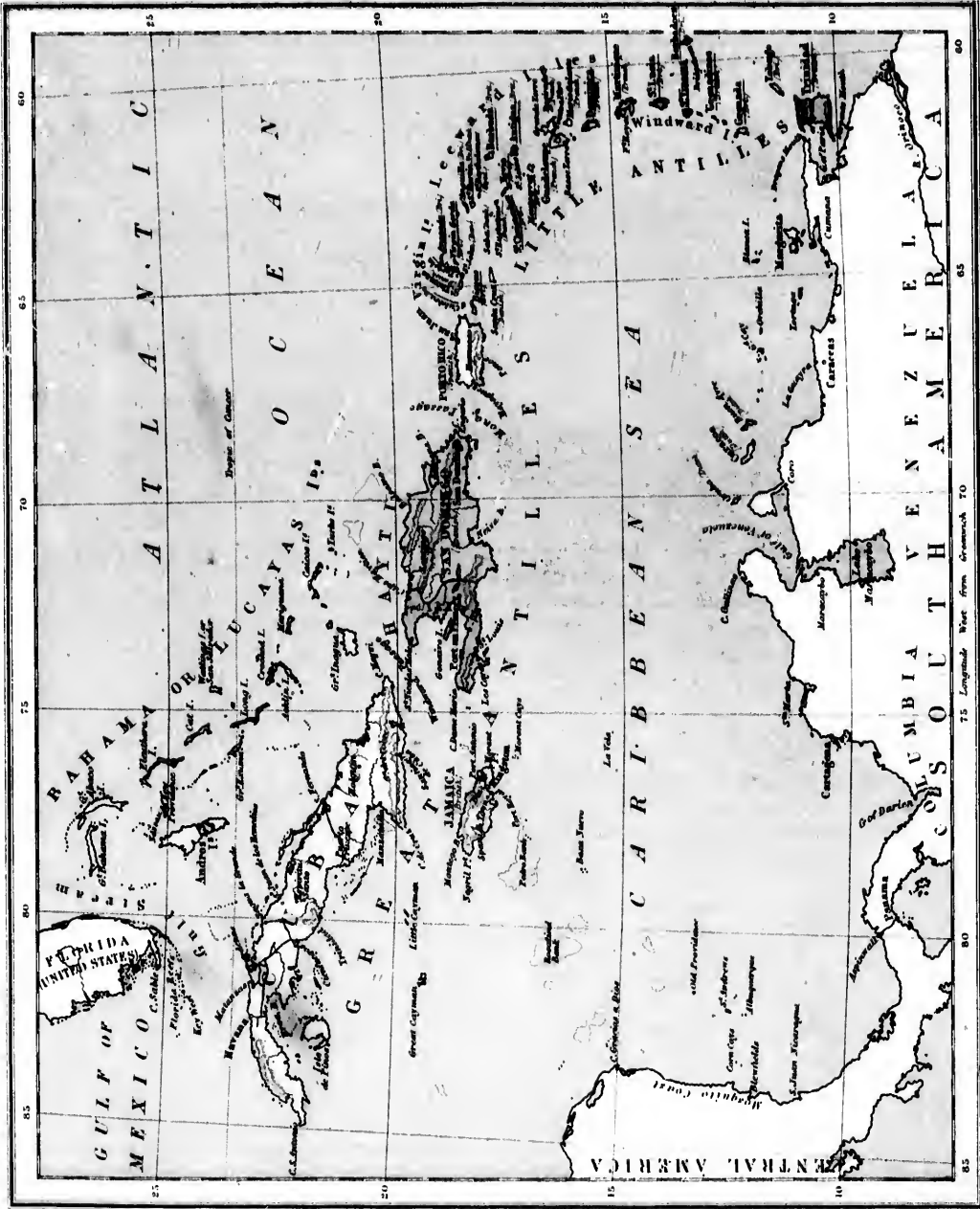
Climate and Products.—529. The climate is hot, and during the wet season rather unhealthy.

The intense heat is somewhat modified by refreshing sea breezes which prevail in the afternoon. Frosts sometimes occur in the highlands, but snow is unknown. A long rainy season, accompanied with violent tempests, continues from July till November. A long dry season prevails from November to March.

The islands are subject to tremendous hurricanes and earthquakes.

530. Tropical **plants** of almost every variety grow luxuriantly. The staple products are sugar-cane, coffee, tobacco, maize, sweet potatoes, indigo, cacao, pimento, and other spices.

WEST INDIES



Scale of 250 English Miles

Scale of 250 Miles to an Inch
One Square Inch comprises 250 Acres of One Acre of Map.

Gulf Stream.
in number.
uthera, New
or, Walling's
Cuba, Hayti,
the peninsula
the Caribbean
ast of Porto
are usually
in the north;
e Windward
egada, Virgin
nta Cruz,
t. Christopher,
t, Guadeloupe,
statia, and St.
ent, Barbadoes,
oast of South
the Leeward
ndies is esti-
and the four
are generally
alline forma-
ugh the Great
t, have an ex-
Jamaica, 7000
of 4000 or 5000
is hot, and
refreshing sea
s sometimes
A long rainy
tinues from
revails from
rrricanes and
y grow luxu-
ffee, tobacco,
and other

The
The
531
Anti
iron,
in Tr
533
birds

In
Al
main
form
cept
the i
ment
the s

In
the n
cruel
from
534
their
most
the p
53

Power
Sp
over
Th

M

SPR

BR

INT

FR

DE

HO

VE

536
miles
in th

The **fruits** include pine-apples, oranges, bananas, and cocoa-nuts. The forests yield mahogany and dye-woods.

531. The **minerals** include copper, found in all the Great Antilles; gold, silver, quicksilver, and platina, in Hayti; gold, iron, and lead, in Porto Rico; salt, in the Bahamas; and asphalt, in Trinidad.

532. **Wild animals** are few and small. There are many beautiful birds and insects.

Inhabitants.—533. The population is about 5,000,000.

About one-sixth of the inhabitants are whites; the remainder are negroes and mulattoes. The negroes were formerly slaves. They are now free in all the islands except those belonging to Spain. Slavery was abolished in the islands belonging to Britain, in 1834, the British Government paying \$100,000,000 as compensation to the owners of the slaves.

In less than half a century after the discovery of the West Indies, the native Indian population was all but extinguished by Spanish cruelty. Hundreds of thousands of negro slaves were then brought from Africa to work in the plantations.

534. **Education** is greatly neglected. Wealthy families send their children abroad to be educated. Roman Catholics are the most numerous religious body. Spanish, French, and English are the prevailing languages.

535. The West Indies are nearly all owned by European Powers.

Spain owns nearly half of the whole area; Great Britain over one-seventh.

The following table shows the political connection:—

Ruling Power.	Islands.	Area in square miles.	Population.
SPAIN	{ Cuba, Porto Rico, and other small islands..... }	44,000	2,306,400
BRITAIN.....	{ Bahamas, Jamaica, Tortola, Anegada, Virgin Gorda, Culebra, Bleque, Antigua, Anguilla, St. Christopher, Nevis, Barbuda, Montserrat, Dominica, St. Lucia, St. Vincent, Barbadoes, Grenada, Tobago, Trinidad }	18,600	1,107,000
INDEPENDENT..	{ Hayti..... }	29,800	1,180,000
FRANCE.....	{ Guadeloupe, St. Bartolomeu, Marie-Galante, Deserade, St. Martin (north end), Martinique..... }	1,025	357,573
DENMARK.....	{ St. Thomas, St. John's, Santa Cruz..... }	122	34,000
HOLLAND.....	{ St. Martin (south end), Saba, St. Eustatia, Curaçoa, Oruba, Buen Ayre..... }	540	45,754
VENEZUELA....	{ Margarita, Tortuga..... }	500	20,000

SPANISH ISLANDS.

536. **Cuba**, the largest of the West India Isles, is 750 miles in length. It is the greatest sugar-producing country in the world. The principal exports are sugar, coffee, to-

bacco, wax, and mahogany; the imports are flour, fish, beef, and manufactured goods. The island has been much disturbed by civil war.

Havana (230,000), the capital, has a superior harbor, and is the largest and most commercial city in the West Indies. It is connected with the other principal places by railroads. Its cathedral contains the remains of Columbus. Havana cigars have great celebrity. The other important towns are **Santiago de Cuba**, **Fuero Principe**, and **Matanzas**.

537. **Porto Rico**, about 90 miles in length, is the coolest and healthiest of the West Indies.

San Juan, Ponce, and Mayaguez are the chief towns.

HAYTI.

538. **Hayti** is a very fertile island, yielding coffee, cocoa, ginger, sugar, tobacco, and cotton. It comprises two independent republics,—the *Negro Republic of Hayti*, in the west end of the island; and *San Domingo*, in the east. The unsettled condition of the government of this island has retarded its prosperity.

539. The **Haytien Republic** has an area of 9300 square miles, and a population of about 570,000. **Port-au-Prince** (85,000) is the capital.

540. **San Domingo** has an area of 20,500 square miles, and a population of 610,000. **San Domingo** (15,000) is the capital, and is the oldest European settlement in America.

BRITISH ISLANDS.

541. The British West Indies are organized into six political divisions or governments,—the *Bahamas, Jamaica, the Leeward and Virgin Isles, the Windward Isles, and Trinidad*. The government of the various colonies is vested in a Governor and a Council.

542. **The Bahamas** comprise about twenty inhabited islands and a large number of islets and barren rocks. **Watling's Island** is believed to have been the first land discovered by Columbus in 1492.

The chief exports are salt, sponges, pine-apples, and oranges. Population, 48,000. **Nassau**, on **St. Salvador**, is the capital.

543. **Jamaica**, the largest of the British West Indies, is 140 miles in length, and has an area of 4193 square miles.

Jamaica was taken from Spain by the British in 1655. The population is 580,000, of which colored people form a large majority.

Kingston (40,000), the capital and largest city, has a fine harbor. **Spanish Town** was formerly the capital.

The **exports** include sugar, rum, coffee, cotton, pimento, ginger, and various other tropical products. The **imports** are flour, fish,

lumber, and manufactured goods. The products have greatly decreased.

The government is vested in a Governor and a Council. *Turk's Islands*, noted for salt, and *Catoes* are dependencies of Jamaica.

544. The British **Leeward** and **Virgin Isles** were united under one government in 1871. They have a total population of 128,600.

The chief exports are molasses, rum, sugar, tamarinds, arrow-root, and cotton. Montserrat is considered one of the most beautiful and healthy of the West Indies. *St. Johns* (18,000), on Antigua, is the capital.

545. The **Colony of the Windward Isles** includes all the Windward Islands belonging to Great Britain, except Trinidad. The population is about 143,900. *St. Lucia* is the largest island.

Barbadoes is the residence of the Governor-in-chief of the Windward Islands, and the headquarters of the British forces in the West Indies. The island is very fertile, and is nearly all under cultivation. The chief products are sugar, molasses, and rum. Area, 166 square miles. Population, 180,000.

Bridgetown (19,000) is the capital and chief seat of trade.

546. **Trinidad**, situated off the north coast of South America, about 80 miles from the mouth of the Orinoco, is the second in size of the British West Indies. It has a remarkable asphalt lake. The products of the island are sugar, molasses, rum, coffee, cocoa, pitch, and timber. The labor is performed largely by coolies from India. Area, 1754 square miles; population, 189,500.

Port of Spain (22,000), the capital, has a good harbor, and is a well-built city.

547. The **Bermudas** comprise about 300 islets and rocks, situated about 650 miles east of Cape Hatteras. They are not properly included in the West Indies. The climate is delightful. The products are arrow-root, potatoes, onions, bananas, oranges, and other fruits.

Fifteen of the islands are inhabited. Area, 41 square miles. Population, 13,500. The British Government has here a strongly-fortified dockyard. **Hamilton**, on Main Island, is the capital and chief town.

FRENCH ISLANDS.

548. **Guadeloupe**, having an area of 534 square miles, is the most important French island. It is subject to frequent earthquakes.

Pointe-a-Pitre is the largest town. **St. Bartholomew** was ceded to France by Sweden in 1878.

DANISH ISLANDS.

549. **Santa Cruz** and **St. Thomas** are the most important of the Virgin Isles.

St. Thomas owes its chief importance to its excellent harbor and central position as a packet-station. Mails for the other islands, as well as for Mexico, Central America, and South America, are sent to *St. Thomas*, which has regular steam communication with these places. In the autumn of 1867 *St. Thomas* was visited by a terrific hurricane, followed by repeated earthquakes, resulting in great destruction of life and property. Area, 33 square miles. Population, 14,000.

QUESTIONS.—(1.) A vessel sails from *St. John, New Brunswick*, to *Havana*, and thence to *Halifax*: what freights would she probably carry?

(2.) A cask of oil from a vessel wrecked off the west of Africa was thrown upon the coast of Scotland: by what course did it travel?

DANISH AMERICA.

550. Danish America consists of the islands of *Greenland* and *Iceland*.

551. **GREENLAND** received its name from the verdure of the grass and moss on the southern coast.

The south-west coast was colonized by Norwegians in the tenth century. When Greenland was re-discovered in 1687 by Davis, the Norwegian colony was wholly extinct.

Greenland is a country of unknown extent, the most persistent explorers having never reached its northern limits.

552. The **surface** is generally elevated and rocky. The highlands and the northern part of the country are covered with perpetual snow and vast glaciers, which often extend to the sea-shore.

The east coast is almost inaccessible in consequence of drift ice. Some suppose the country consists of a cluster of islands bound together by ice beneath the snows and glaciers.

553. The **climate** is very severe. As the days are very long in summer, barley and vegetables come to maturity on the south-western coasts.

554. The **animals** are the reindeer, polar bear, walrus, seal, Esquimaux dog, hare, and fox. Aquatic birds are numerous.

555. The **population** is estimated at 9,800.

The most of the inhabitants are Esquimaux, many of whom have been converted to Christianity by Moravian missionaries. They are found principally along the west coast, and are engaged chiefly in hunting and fishing. Their winter houses are mostly under ground.



WALRUS HUNT.

556. **Lichtenfels** is the capital.

The other important places are, *Julian's Harbor*, *Frederick's Harbor*, *Good Harbor*, and *Upernavik* (N. lat. 72° 40').

557. The exports are seal oil, seal skins, whale oil, elder down, and furs.

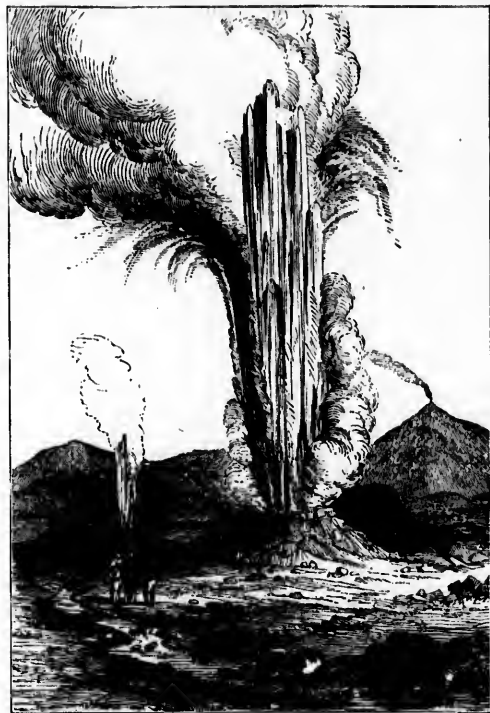
558. **IOELAND** was discovered by a Norwegian sea-king in 870. It was then without inhabitants, but was afterwards occupied by colonists from Norway. It has been subject to Denmark since 1385.

559. The surface is rugged and mountainous, presenting

a wild and desolate aspect. The mountain sides are covered with vast glaciers, frequently extending to the sea. There are thirty known volcanic peaks, and extensive plains are covered with fractured lava. Basaltic caves and deep crevasses are numerous.

560. **Mount Hecla**, though not the most elevated, is the most noted volcanic peak in Iceland. During an eruption in 1845 and 1846, the lava stream, at the distance of two miles from the crater, was a mile wide and forty feet deep. More recently, during an eruption, extensive meadows were covered with lava, and rendered worthless.

561. The most remarkable phenomena of Iceland are the hot springs. The most noted is the **Great Geyser**, near Mount Hecla.



GEYSERS.

It generally appears as a small pool on the summit of a mound. At irregular intervals boiling water is thrown to the height of 100 feet.

562. The climate is severe and variable, but the mean annual temperature is higher than in any other country as far north.

563. The minerals are sulphur, chalcedony, and Iceland spar, noted for its double-refracting property.

564. The native plants include shrubs, grasses, and moss. Potatoes, turnips, and other vegetables are cultivated. Fine pasturage is afforded along the south-west of the island. Valuable drift-wood is brought by ocean currents.

565. The animals include numerous reindeer and foxes. The polar bear sometimes comes as a passenger on drift ice. Sea-fowl are numerous. The fisheries are very valuable. Many sheep, cattle, and horses are reared.

566. The population is about 72,400. The inhabitants

are principally of Norwegian descent, generally intelligent, and profess the Lutheran religion.

567. **Reikiavik** (3000), near the south-west coast, is the capital.

The exports consist of wool, butter, elder down, fish, and oil. The imports include manufactures and flour.

568. The government is vested in a Governor, appointed by the King of Denmark, and a Legislative Assembly.

EXERCISE.—Find the length of the longest day at Upernavik.

intelligent,

coast, is the

fish, and off.

r, appointed
assembly.

Upernavik.



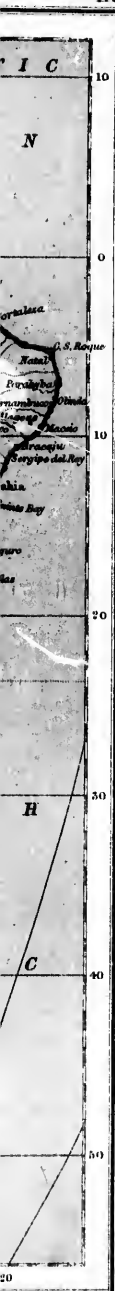
SOUTH AMERICA

IX



Green general elevation below 1000 feet
 Yellow between 1000 and 10000 feet
 Pink above 10000 feet

English Miles.
 0 100 200 300 400 500
 Scale of 610 Miles to an Inch.
 One Square Inch comprises 182 times the Area of the Sq. Inch of Map.



SOUTH AMERICA.

I. History.—1. The whole of South America, except Patagonia, was conquered and colonized by the Portuguese and Spaniards early in the sixteenth century. The eastern portion, or Brazil, became subject to Portugal; and the remainder, from the Caribbean Sea to Patagonia, to Spain.

The native Indians were treated with great cruelty, and were made to toil like beasts of burden, to gratify the avarice of their conquerors.

2. The Spaniards and Portuguese held their possessions in South America about three hundred years. During the first quarter of the nineteenth century, the Spanish States, after severe struggles, gained their independence. Brazil obtained peaceable separation from Portugal in 1822.

Gulana, in the north, is the only portion of South America now owned by Europeans.

II. Position.—3. South America is situated on the south-east of North America, with which it is connected by the Isthmus of Panama, which at the narrowest part is about thirty miles in breadth. The Caribbean Sea is on the north-west; the Atlantic Ocean washes the east coast; the Pacific, the west. The greater part of the continent is in the Southern Hemisphere, and about three-fourths of its area are within the torrid zone. It is opposite to Africa in the Eastern Hemisphere.

Lat. $12^{\circ} 38' N.$ — $55^{\circ} 55' S.$; lon. 35° — $81^{\circ} 30' W.$

III. Form.—4. The form is triangular, one side being on the north-east, one on the south-east, and the third on the west.

If a triangle be formed by drawing lines between Cape Gallinas in the north, Cape St. Roque in the east, and Cape Horn in the south; and a small triangle be applied to the west side of this triangle, by drawing lines between Cape Gallinas, Cape Blanco, and the Gulf of Arica, the approximate form of South America will be obtained.

IV. Coast.—5. The coast line is remarkably regular. There are no inland seas or projecting peninsulas.

The principal coast waters are, the *Gulf of Darien*, *Gulf of Venezuela* and *Lake Maracaybo*, *Gulf of Paria*, mouth of the *Amazon*, mouth of the *La Plata*, *Gulf of San Matias*, *St. George's Bay*, *Strait of Magellan*, *Gulf of Arica*, *Gulf of Quayaquil*, and *Bay of Panama*.

The capes are, *Gallinas*, *St. Roque*, *Frio*, *St. Antonio*, *Horn*, *Forward*, and *Blanco*.

6. The islands off the coast of South America are, *Trinidad* and several of the smaller West Indies; *Joannes* or *Marajo*, in the mouth of the Amazon; *Falkland Isles*; *Tierra del Fuego*; *Cape Horn Island*; a chain extending northerly from Cape Horn, ending with *Chiloe*; *Juan Fernandez*; and *Galapagos*.

7. *Marajo*, situated in the mouth of the Amazon, is about 180 miles in length. Large herds of cattle feed on its luxuriant grasses. The island belongs to Brazil. Population, 20,000.

8. The *Falkland Isles*, 300 miles east of Patagonia, consist of about 200 islands, of which only two, *East Falkland* and *West Falkland*, are of considerable size. The coast is much indented, and its good harbors are a refuge for southern whalers and ships passing around Cape Horn. The islands are destitute of trees, but they abound in grass, which sustains many cattle, horses, and sheep. The inhabitants number about 2000. The islands belong to Great Britain.

9. *Tierra del Fuego* (*Land of Fire*) is separated from the mainland by the Strait of Magellan. It consists of several rocky islands, containing volcanic mountains. The natives are of small stature, and are among the most degraded and wretched of savages. They wear little clothing, and subsist principally on fish. Their number is estimated at about 2000. Their dwellings are miserable huts, about eight feet in diameter and five feet in height.

Cape Horn is the southern point of a high black rock in the ocean.

10. *Juan Fernandez*, 400 miles west of Chili, is a rocky island, 18 miles in length, and is celebrated as the solitary residence, for four years, of the shipwrecked mariner Alexander Selkirk, on which fact was based the story of "Robinson Crusoe." The island belongs to Chili. The *Galapagos*, 700 miles west of Ecuador, consist of a group, the largest of which is 60 miles long. They are celebrated for their large turtle, for which they are visited. They derive their name from the Spanish word *galapago*, a tortoise.

V. Area.—11. South America is a little more than four-fifths the size of North America.

The area is 7,000,000 of square miles, or it equals a square of 2650 miles. The length of the continent is 4800 miles; the breadth, 3200 miles.

VI. Surface.—12. South America, like North America, has a great highland region on the west, another of less elevation on the east, and a central plain between them.

13. The **Andes**, extending along almost the whole western side of the continent, and at a distance from the Pacific varying from 50 to 150 miles, form the great mountain system of South America. It is computed that with their plateaus and slopes they cover nearly one-sixth of the continent. In the north there are three ranges; throughout the middle and principal part of the continent there are only two ranges; and in the south there is but one range. The breadth of the Andes in Patagonia is estimated at 70 miles, and in Bolivia at 400 miles. The most elevated peaks are four and a half miles in height, and are exceeded only by the loftiest peaks of the Himalayas in Asia. The Andes do not extend through the mainland of Southern Patagonia, but the islands on the west coast are elevated and mountainous.

14. The parallel ranges are separated by an elevated table-land, from 6000 to 13,000 feet in height, and having an average breadth of 20 miles, but attaining in the plateau of Bolivia an extreme breadth of 100 miles. The table-land is divided into basins by cross ridges. The summits of the mountains are barren and rocky plains, with numerous snow-clad peaks rising above the general level.

15. The average height of the Andes is greatest in Ecuador and Bolivia, and here also are found some of the highest peaks. *Nevada de Sorata*, in Bolivia, according to some measurements, rises to the height of 24,812 feet. *Chimborazo*, in Ecuador, has an elevation of 21,422 feet above the sea-level. Its height above the valley of Quito at its base is 11,958 feet. It was once thought to be the highest mountain in the world.

Further south, the general height of the Andes is much less; but the peak of *Aconcagua*, in Chili, rising far above the ordinary level, has an elevation of 22,822 feet.

The passes of the Andes are from 10,000 to 15,000 feet in height.

16. The Andes abound in deep gorges, sometimes called *quebradas*, at the bottom of which are rushing, foaming streams. These breaks are sometimes from 2000 to 3000 feet in depth. They often present almost insuperable difficulties to the traveller crossing the mountains, taxing to the utmost his courage and powers of endurance. Sometimes his path lies along the edge of rocky precipices, with scarce a foothold, where a single false step would hurl him into the depths below; sometimes it leads him beneath impending rocks which threaten to dash him in pieces; and sometimes it lies over a yawning chasm, bridged by chains suspended from side to side, or by the trunk of a tree. Often the native Indian alone is competent for the perilous task, and the traveller is borne upon his back.

17. Numerous lofty volcanoes form a remarkable feature of the Andes. There are about thirty-six in a state of activity, but the eruptions of some of these are at long intervals. *Cotopaxi*, 18,875 feet high, is one of the most noted volcanoes in the world. Its flames are sometimes seen to rise 3000 feet above the crater, and its roaring is heard over 500 miles. *Pichinca*, *Antisana*, and *Chimborazo* are also noted volcanoes.

18. The Andes and the countries in their neighborhood, are often visited by tremendous earthquakes, by which many cities have been destroyed and thousands of lives lost.

19. The **Atlantic Highlands** of South America, like those of North America, are divided into two portions. The low valley of the Amazon lies between the two sections.

20. The **northern plateau**, situated between the valleys of the



CROSSING THE ANDES.

Orinoco and the Amazon, is much the smaller; but it contains the greatest elevations. Its principal mountains are the *Parimé* and the *Aearai*, extending east and west, and having an extreme height of 10,000 feet.

The **southern plateau** comprises a large part of Brazil. It has several irregular mountain ranges, generally extending north and south. The highest range lies between the Atlantic coast and the San Francisco River. A water-shed extends across the middle of the plateau dividing the streams that flow northerly to the Amazon from those that flow southerly.

21. The **lowlands** of South America are principally in the interior, extending from the Caribbean Sea southerly, between the eastern and western highlands. They also include the valley of the Amazon and the eastern coast from the mouth of the La Plata to the Strait of Magellan. The lowlands are generally very level, particularly towards the north, where there is scarcely a water-shed between the basins of the Orinoco and the Amazon. The lowland plains of South America are, for the most part, included in three

great divisions—the *llanos* in the north, the *selvas* in the middle, and the *pampas* in the south.

VII. Rivers.—22. The Andes form the great water-shed of South America, throwing all the important rivers of the continent to the Atlantic side. The streams on the Pacific slope are short and rapid.

The **great river systems** of South America are those of the *Orinoco*, the *Amazon*, and the *Rio de la Plata*.

The important rivers of South America, not connected with either of the three great systems, are, the *Magdalena*, *Essequibo*, *San Francisco*, and *Colorado*.

23. The *Orinoco*, the smallest of the great rivers of South America, rises in the Parimé Mountain; but it receives many affluents from the Andes. A few miles from its source it bifurcates. One branch, the *Cassiquiare*, flows southerly and joins the Rio Negro, a tributary of the Amazon. The Orinoco is about 1600 miles in length, and it has uninterrupted navigation from the sea to its confluence with the *Apure*, a distance of nearly 800 miles. Its breadth, 250 miles from the sea, is about four miles. It receives over 400 large tributaries, the most important of which are, the *Guaviare*, the *Vichada*, the *Meta*, and the *Apure*, from the left; and the *Venture*, the *Caura*, and *Caroni*, from the right. It enters the sea through several channels.

24. The *Amazon* is the largest river in the world, having an extreme length of about 4000 miles, and carrying to the Atlantic the drainage of about a third of South America. It has its principal sources in the Andes, and drains the whole eastern slope for the distance of 1400 miles. It flows through a remarkably humid region, acquiring such a vast body of water that for the last 450 miles of its course it is never less than four miles broad. It enters the sea by two principal mouths, enclosing Joannes or Marajo Island, and it flows with such impetus that its waters are distinguishable 500 miles from the shore. The largest mouth is about 100 miles in breadth.

During the rainy season, the Amazon submerges vast tracts of lowland along its banks. It abounds in small islands, and is bordered with swampy regions, rendered almost impenetrable by the most luxuriant vegetation. This great river is the home of alligators, turtles, and many kinds of fish. Of the latter, 1300 species have been found in its waters. A large part of the basin of the Amazon is covered with dense and unexplored forests.

The Amazon is navigable for small steamers to a point within 300 miles of the Pacific Ocean; and, including its affluents, it is estimated to afford 50,000 miles of inland navigation. Through the *Cassiquiare* it has navigable connection with the Orinoco, and it is separated from the La Plata system by a portage of only 18 miles. Some of the exports brought down the Amazon are indiarubber, cocoa, cotton, tobacco, nuts, sarsaparilla, coffee, cabinet-woods, and hides.

The principal tributaries of the Amazon are, on the left bank, the *Napo*, *Putumayo*, *Yapura*, *Rio Negro*, and *Trombetas*; on the right, the *Huallaga*, *Yacajati*, *Yavari*, *Jutay*, *Jurua*, *Purus*, *Madeira*, *Tapajos*, *Xingu*, and *Toantinus*.

25. The *Rio de la Plata*, properly an estuary of a great river system, is formed by the *Parana* and the *Uruguay*, from the confluence of which to the sea the distance is about 200 miles. It is 20 miles broad at Buenos Ayres, and 140 miles broad at its mouth. Its waters are turbid, and can be traced 200 miles from the shore. It is estimated that the basin of this river system comprises nearly one-fifth of South America.

The *Parana* is 2500 miles long, and is navigable for large steamers

1300 miles from the sea. Its principal affluents are, the *Paranahiba*, the *Paranapamena*, the *Salado*, and the *Paraguay*, with its tributaries the *Pilecomayo* and the *Vermejo*.

VIII. Lakes.—26. South America has very few lakes. The most important are *Maracaybo* and *Titicaca*.

27. **Lake Maracaybo** is about 100 miles in length and from 5 to 10 miles wide. It is connected with the Gulf of Maracaybo, an inlet of the Caribbean Sea, by a strait 20 miles in length.

28. **Titicaca**, on the table-lands of Peru, 12,846 feet above the level of the ocean, is one of the most elevated lakes in the world. It is 115 miles long, and from 30 to 60 in breadth, and is overlooked by some of the loftiest peaks of the Andes. A stream called the *Desaguadero* flows from Titicaca to a small lake on the south, but there is no outlet to the ocean.

IX. Soil.—29. The soil is generally very fertile, except in the rainless region west of the Andes and the barrens in the south of Patagonia.

X. Climate.—30. The greater part of South America is in the torrid zone, and has a hot climate. Between the tropics every variety of temperature is sometimes found in succession within a few miles—intense heat on the lowlands, the mildness of spring on the table-lands, and perpetual winter on the mountain heights. (See *Physical Geography*, 116.)

The extreme south of the continent is very cold.

31. A large part of South America is noted for the humidity of its climate. The humid portion comprises the whole of the continent east of the Andes and north of 30° south latitude, including, for the most part, the basins of the three great rivers.

32. On the west of the Andes, from the equator to 30° south latitude, including the coasts of Peru, Bolivia, and Northern Chili, rain seldom falls; also, south of this parallel, on the east of the Andes, there is little rain.

33. Over the whole continent north of 30° S. the rain-winds blow from the Atlantic—the north-east and south-east trade-winds; and the year consists principally of two seasons, a wet and a dry. During the dry season rain seldom falls, but the ground is watered by copious dews. Throughout the wet season the rain pours in torrents over the whole tropical region east of the Andes, the cold heights of these mountains exhausting the air of moisture. Accordingly, on the west of the Andes, from Cape Blanco to 30° S. lat., there is little or no rain.

34. North of Cape Blanco the Andes take a north-easterly course; and the rain-winds crossing the isthmus are not obstructed by cold highlands, and accordingly bring their moisture to this part of the Pacific coast.

South of 30° S. lat. the rain-winds blow chiefly from the Pacific, and cross the region east of the Andes as dry winds. This region, however, is partially watered by rain brought by variable winds from the Atlantic.

The heat of the tropical regions of South America is much less intense than in the corresponding portions of Africa. This is probably owing to the greater humidity of South America, its dense forests, and lofty mountains.

XI. Minerals.—35. South America has been noted since its first discovery for its mineral wealth. The most important mines are the iron, diamond, and gold mines of Brazil, and the silver-mines of Peru and Bolivia.

The mines of South America have been much less productive during the last half century than formerly. It is thought that this is rather owing to inefficient working than to exhaustion of the mines.



BRAZILIAN FOREST.

XII. Plants.—36. Except in the rainless regions, the extreme mountain heights, and Patagonia, South America has a most luxuriant vegetation. Its forests contain palms, tree-ferns, dye-woods, cabinet-woods, and medicinal plants of the greatest value. The cinchona, growing on the mountain slopes, yields the valuable medicine called quinine; and the caoutchouc yields a juice from which india-rubber is made.

One of the most remarkable plants of South America is the *Victoria Regia*, a gigantic water-lily, found in the rivers of Brazil and Guiana. Its leaves are from eight to twelve feet in length, and from four to eight feet in breadth, and the flower is a foot in diameter.

37. South America produces sugar-cane, coffee, cotton, cacao, maté or Paraguay tea, cinnamon, indigo, vanilla, and all the tropical fruits and spices.

38. The forests and general vegetation of the Andes vary with the elevation, from those of a tropical character at the base, through all the varieties of temperate climates along the slopes, to the gay-colored Alpine flowers and the mosses and lichens of the higher regions. (See *Physical Geography*, 148.)

The Llanos.—39. On the west and north of the Orinoco are the vast treeless plains called *llanos*. During the rainy season they are covered with tall grass, and stocked with almost countless herds of wild cattle and horses. Before the end of the dry season every plant perishes, the ground is parched and barren as a desert, and clouds of dust fill the air. The cattle and horses retreat to the lower mountain slopes for pasturage, and the alligators and other reptiles crawl into the mud of the drying pools, where they remain in a torpid state till the rains return.

The Selvas.—40. The plains in the basin of the Amazon are called *selvas*, a Spanish word meaning forests. No other part of the world has such extensive, majestic, and dense forests. Here are found tall palms of a hundred different species, ferns, dye-woods, and other valuable trees, interspersed with shrubbery, and the whole so overgrown with climbing-plants that the traveller must cut a path before him.

The Pampas.—41. South-west of the La Plata are plains called *pampas*, treeless like the *llanos*, but covered with a coarser grass intermingled with rank trefoil. In some parts at certain seasons the pampas are covered with forests of thistles ten feet high, which, after coming to maturity, are broken down and blown to powder by violent winds from the Andes, called *pamperos*. Millions of cattle, horses, and sheep roam over these plains.

XIII. Animals.—42. South America has no animals as large as some of those found in Asia and Africa. The largest is the tapir, which, though much smaller, somewhat resembles the elephant. The condor, which is the largest bird of flight in the world, inhabits the lofty mountains.

The llama and alpaca are peculiar to the higher slopes of the Andes. The llama, which is tamed and used as a beast of burden on the mountain steeps, is called the camel of South America. The



CONDOR.

alpaca resembles the llama, and, like it, belongs to the camel tribe. It is covered with a valuable hair or wool.

43. In the selvas are found the armadillo, sloth, and ant-eater, which are peculiar to South America; here also are the jaguar or South American tiger, the puma, troops of monkeys, birds of varied and beautiful plumage, the alligator, boa-constrictor, and various other kinds of serpents, and innumerable insects. The vast herds of cattle and horses which roam wild over the llanos and pampas do not belong to the native wild animals, but were introduced by the early Spanish and Portuguese colonists.

XIV. Inhabitants.

—44. The population is estimated at 31,000,000, consisting of Indians, whites, negroes, and mixed races. They are generally ignorant and indolent, and possess few of the modern improvements of the civilized world, such as railways, telegraphs, and printing-presses. The Indians and mixed races are the most numerous. In some parts the Indians are the most industrious class, but they are generally uncivilized.

Those of Patagonia are very tall, live a wandering life, moving principally on horseback, and subsisting on the flesh of wild animals.

45. The white inhabitants are chiefly Portuguese in Brazil, and Spanish in the other States; except a few English, Dutch, and French in Guiana. The prevailing religion is Roman Catholic.

The negroes were originally introduced as slaves. They are now



JAGUAR.

free, the last to obtain their freedom being the negroes of Brazil, who were emancipated in 1888.

46. When America was discovered, Peru was occupied by Indians comparatively civilized. They had a regular government, large cities, temples richly ornamented with gold and silver, monuments, good roads, and other public works. There are yet in the country many remains of this Indian civilization.

XV. Divisions.—47. South America comprises thirteen political divisions, as in the following table:—

Name.	Area in square miles.	Population.	Capital.
COLOMBIA.....	320,000	4,000,000	Bogota.
ECUADOR.....	260,000	1,005,000	Quito.
VENEZUELA.....	440,000	2,122,000	Caracas.
BRITISH GUIANA.....	85,000	280,000	Georgetown.
DUTCH GUIANA.....	46,000	68,000	Paramaribo.
FRENCH GUIANA.....	47,000	27,000	Cayenne.
BRAZIL.....	3,200,000	13,000,000	Rio Janeiro.
PERU.....	508,000	3,000,000	Lima.
BOLIVIA.....	600,000	2,525,000	Oruro.
CHILE.....	124,000	2,520,000	Santiago.
ARGENTINE REPUBLIC.....	1,125,000	5,100,000	Buenos Ayres.
PARAGUAY.....	66,700	476,000	Asuncion.
URUGUAY.....	72,000	700,000	Monte Video.

XVI. Towns.—48. Buenos Ayres and Rio Janeiro are the largest cities in South America. Many of the cities on the western side are upon the elevated table-land. Pasco, in Peru, has an elevation of 13,720 feet; Potosi, in Bolivia, of 13,330 feet. Many of the cities near the Andes have suffered greatly from earthquakes.

XVII. Industries.—49. The chief occupations are agriculture, stock-raising, and mining.

The exports are hides, horns, tallow, beef, horses, alpaca wool, guano, dye-woods, indigo, cabinet-woods, medicines, coffee, spices, sugar, tropical fruits, gold, silver, and diamonds.

50. Political distractions and the want of energy in the inhabitants have interfered much with the development of the great natural resources of South America. But little attention is given to the cultivation of the soil, and manufactures are wholly neglected. The wealth of many of the inhabitants consists in cattle, which roam at large in a semi-wild state, giving little trouble to their owners except when it is required to catch them. This feat is performed by throwing a lasso over the head.

While the various States were governed by Spain and Portugal, they were subjected to the most oppressive restrictions, in order to secure a monopoly for home products: thus, they were compelled to cut down their vines lest they should interfere with the wine trade of Spain and Portugal.

XVIII. Government.—51. All the States of South America, except Guiana, have republican governments. The three divisions of Guiana are respectively subject to England, Holland, and France.

The Governments of South America are weak, and exercise but little influence among the nations of the Earth.

COLOMBIA.

52. Colombia was once a Spanish vice-royalty. On gaining its independence in 1819, it united in a federal republic with Ecuador and Venezuela. This union was dissolved in 1830, each country becoming a separate republic. Colombia then took the name of New Granada. A new organization of the government was made in 1863, when eleven states were united into a federal republic, under the name of the United States of Colombia.

53. Colombia is in the north-west of the continent, and includes the narrow isthmus of Panama.

The surface is mountainous in the west, being crossed by the three ranges of the Andes. The eastern side consists of llanos. The principal rivers are, the *Magdalena*, over 800 miles long, the *Meta*, and the *Guaviare*. The lower course of the *Magdalena* is navigable for about 500 miles.

54. The climate varies according to the elevation, so that in the course of a day's journey the traveller may find all the climates of the world.

55. The soil is fertile, and the mineral wealth is great, but every branch of industry is neglected. The low plains are very unhealthy, but the valleys and slopes of the Andes

are healthful and temperate. The forests are very extensive, yielding cabinet and dye woods. Immense herds of cattle feed upon the llanos.

56. The inhabitants consist of Spaniards, Indians, negroes, and mixed races. The mixed races comprise more than half. Many of the Indians are uncivilized.

Towns.—57. The chief towns are upon the table-lands of the Andes. *Bogota* (100,000) is the largest city. Its buildings are low, and have thick walls, to guard against earthquakes. *Cartagena* is an important port. *Aspinwall* and *Panama*, on opposite sides of the isthmus, are connected by a railroad 50 miles in length.

58. The chief exports are cattle, mules, hides, tallow, tropical fruits, cabinet and dye woods, tobacco, coffee, emeralds, and gold.

The government is similar in form to that of the United States of North America.

ECUADOR.

59. Ecuador took its name from its situation on the Equator. It became a separate republic in 1830. (See *Colombia*.)

60. The surface is mountainous in the west, where the Andes form two ranges. Between these ranges are high valleys and table-lands, which comprise the principal cultivated land in Ecuador. The eastern part of the country belongs to the forest-plains of the Amazon.

There are many lofty volcanic peaks in the Andes of Ecuador, as *Chimborazo*, *Cotopaxi*, *Pichinca*, and *Antisana*. *Cotopaxi* is remarkably symmetrical in form, presenting the appearance of a vast truncated cone.

61. The climate varies according to the elevation. The vast forests yield valuable timber, tropical fruits, cacao, and the cinchona or Peruvian bark. Rice, pepper, sugar-cane, cotton, corn, and wheat are cultivated.

62. A large proportion of the inhabitants are Indians, and they are the most industrious part of the population.

Towns.—63. *Quito* (80,000), the largest city, is near the Equator, on a plateau 9528 feet above the sea-level. It has a most delightful climate, but is exposed to violent earthquakes. In 1859 many of its buildings were thrown down, and 5000 inhabitants lost their lives. *Guayaquil* has a good harbor, and is the principal port. *Cuenca* ranks next to *Quito* in size.

64. The commerce of Ecuador is very small. The chief exports are cacao, cotton, tobacco, Peruvian bark, and fruits. Cottons, woollens, various manufactured goods, and wines are imported.

VENEZUELA.

65. Venezuela took its name, which signifies *Little Venice*, from an Indian village built on piles, which the early discoverers found on the low ground near Lake Maracaybo. They gave it this name from its resemblance to Venice in Europe.

66. The **surface** is mountainous in the north-west and south-east; but a large part of the country consists of grassy plains or llanos.

67. The **vegetation** is luxuriant and varied. Among the forest-trees are mahogany, rosewood, caoutchouc, and many species of palm-trees, of which the most valuable is the sago palm. Another valuable tree is called the cow-tree, which, on cutting into it, yields a juice resembling milk. Vanilla, cacao, tobacco, cotton, coffee, sugar-cane, and indigo are cultivated. Coffee is the staple product.

The llanos are not suited to agriculture, as they are at different seasons subject to the extremes of humidity and drought. They sustain large herds of cattle.

The **inhabitants** consist largely of mixed races.

Towns.—68. **Caraccas** (56,000), the most important town, has an elevated situation, 16 miles from the Caribbean Sea. The city was nearly destroyed by an earthquake in 1812, and 12,000 people lost their lives. The event occurred on Holy Thursday, when many of the people were in the churches. Caraccas was the birthplace of General Bolivar. **Maracaybo, Porto Cabello, and La Guayra** are the chief ports.

69. As in all the countries of South America, internal commerce is impeded through want of roads. The **exports** consist of cattle, hides, horns, sarsaparilla, and other products.

BRITISH GUIANA.

70. British Guiana was settled by the Dutch in 1580. It was taken by the British in 1803, and was finally ceded to them in 1814. The limits of the country on the south and west are undefined.

71. The **coast**, from 10 to 40 miles inland, is low, and is protected from the sea by dikes. The interior is mountainous. The chief **rivers** are the *Esequeibo, Demerara, Berbice, and Corentyn*, which are navigable for from 50 to 150 miles. The Corentyn separates British and Dutch Guiana.

72. The **soil** is very fertile. The **climate** is hot and humid. There are two dry and two rainy seasons in the year. One rainy season occurs in December, January, and February; the other in June, July, and August. They are very unhealthy, especially in the coast region.

73. The cultivated part of the country is confined chiefly



COFFEE PLANTATION.

to the coast and the river-valleys. The **principal products** are sugar-cane, maize, yams, pepper, and various tropical fruits. The forests are extensive, containing dye-woods, palms, and medicinal plants.

74. The **inhabitants** consist of English, Dutch, negroes, and Indians.

The country is divided into three districts,—*Berbice, Demerara, and Essequeibo*.

75. **Georgetown** (40,000), at the mouth of the Demerara, is the capital. It occupies a low, damp situation, and is subject to yellow fever; but it is handsomely built, and many of its houses are embosomed in palms and orange-trees. Only about one-fifth of the inhabitants are white people.

76. The chief **exports** are sugar, molasses, rum, and timber,—total value, \$10,600,000. The **imports** are flour, pork, beef, fish, butter, staves, and manufactured goods.

77. The **government** is vested in a *Court of Policy*, composed of ten members, five of whom, including the Governor, are appointed by the Crown. Revenue, \$3,000,000.

DUTCH AND FRENCH GUIANA.

78. **Dutch Guiana** is similar in physical features to British Guiana. It is very fertile, yielding sugar-cane, cotton, cacao, coffee, and tropical fruits.

79. Nearly nine-tenths of the inhabitants are negroes. The slaves were emancipated by the Government of Holland in 1851;

but they were required to work for their former masters, as apprenticed laborers, without pay, for twelve years.

80. **Paramaribo** (20,000), on the Surinam, five miles from its mouth, is the capital and chief place of trade. Its streets are adorned with orange, lemon, and tamarind trees.

81. **French Guiana** was first settled by the French in 1604. In 1763, twelve thousand emigrants came out from France, three-fourths of whom perished from exposure to the unhealthy climate.

82. This country resembles the other divisions of Guiana in surface, soil, and products. It yields rice, maize, coffee, sugar, pepper, cloves, cinnamon, and nutmegs. The island of Cayenne, on the coast, is noted for its Cayenne pepper. Guiana is used by France as a penal settlement.

Cayenne (10,000), on the island of the same name, is the capital.

BRAZIL.

83. Brazil was discovered by a Portuguese named Pinçon in the year 1500. It is said that it derived its name from a native wood of a bright red color, which the Portuguese called *brazas*, or *coals of fire*.

84. On the invasion of Portugal by the French in 1808, King John VI., with his court, removed to Brazil. During his residence in the country he greatly improved its condition. In 1821 he returned to Portugal, leaving his son Pedro as regent. In accordance with the wish of the inhabitants, Pedro in the following year proclaimed Brazil an independent State, and assumed the title of Emperor. The independence of the country was recognized by Portugal in 1825.

85. Brazil has an extensive coast and many excellent harbors. The country is nearly as large as the Dominion of Canada. The northern half belongs to the region of the selvas, or forest-plains of the Amazon; the southern half is table-land with low mountain ranges.

86. The soil is very fertile and well watered, and the climate is one of the most delightful in the world.

87. The **minerals** are important and varied, including gold, silver, iron, and diamonds. Little has been done to develop the mineral resources of the country.

88. The diamond-mines of Brazil, formerly considered the richest in the world, are now surpassed by those of South Africa.

89. Brazil is surpassed by few countries in the richness and variety of its vegetation. The vast forests of the interior are remarkable for luxuriance and variety. Here are found huge trees from eight to twelve feet in diameter, tall and graceful palms, bamboos, and myrtles; also Brazil wood, fustic, rosewood, and mahogany. (See 40.)

90. The staple products are sugar and coffee. Cotton,

rice, manioc, tobacco, corn, bananas, ginger, lemons, and oranges are also extensively cultivated.

Brazil yields one-half of the coffee produced in the world. Large quantities sold as Java and Mocha coffee come from this country.

Manioc is an important food plant. One acre of manioc is said to yield as much nourishment as six acres of wheat.

A comparatively small portion of Brazil is under cultivation.

91. Immense herds of cattle and horses feed on the plains in the southern part of the country.

92. The **white inhabitants**, forming about a third of the population, are principally of Portuguese origin. They are generally indolent, and look upon manual labor as degrading. In the cities a great deal of time is spent in street processions.

93. Labor is performed chiefly by negroes and mixed races. Slavery was abolished in the year 1888. Prosperous German and Italian farming colonies have recently been formed in the temperate regions of the south.

94. Public schools are established in the towns, but throughout the country education is in a backward state.

Most of the inhabitants are Roman Catholics.

Towns.—95. **Rio Janeiro** (357,000), the capital, has one of the best harbors in the world, and is, next to Buenos Ayres, the largest city in South America. The value of the coffee exported annually from Rio is over \$50,000,000.

Bahia (140,000) has a beautiful situation on All Saints' Bay. It has a fine harbor and an extensive commerce.

Fernambuco (120,000) exports large quantities of sugar. **Para** is a great india-rubber market. **Maranhão** is an important city. **Petropolis**, having a beautiful inland situation, is the summer residence of the emperor.

96. The chief pursuits are agriculture, grazing, and mining. Nearly all the labor is performed by the negroes. Manufactures are almost wholly neglected.

97. The chief exports are coffee, sugar, cotton, tobacco, rice, india-rubber, Peruvian bark, cabinet and dye woods, hides, and diamonds. Total value, \$116,000,000. The imports include almost all kinds of manufactures, flour, wine, &c. Total value, \$142,500,000.

98. The **government** was changed in 1889 from a monarchy to a republic, and the dethroned king was compelled to leave the country.

The political importance of Brazil is not commensurate with its size and population.

PERU.

99. Peru, the seat of the ancient empire of the Incas, was the largest, most powerful, and most civilized State in the New World at the time of its discovery. The inhabitants worshipped the Sun as the supreme deity; and the Inca, or emperor, claimed to be his offspring. The empire was con-

quered by Pizarro, and the reigning monarch treacherously put to death.

Peru gained its independence from Spain in 1824. The country has since been much distracted by opposing factions and insurrections.

100. The ancient Peruvians were well advanced in agriculture. They made terraces along the mountain slopes, and watered their lands by irrigation, sometimes conveying the water many miles through aqueducts. They were also skilled in architecture. Their palaces and temples were built of stone, and the walls of the interior were overlaid with gold. The country still has interesting remains of its civilization when first visited by the Spaniards.

101. Peru extends about 1300 miles along the Pacific coast. The country consists of three great natural divisions—the *Coast*, the *Sierra*, and the *Montaña*.

102. The *coast region*, lying between the mountains and the sea, and varying from 30 to 60 miles in breadth, is a rainless, sandy desert. The river-valleys which cross this wilderness country are very fertile.

103. The *sierras*, or highlands, consist of the mountain ranges and the intervening table-lands. The lofty mountains are crossed by paths so steep, narrow, and rugged, that the sure-footed mules can scarcely pass from one side to the other. The table-lands, surpassed in height only by those of Tibet in Asia, have a delightful climate, and yield abundantly the cereals, vegetables, and fruits of temperate climes.

104. The *montaña*, lying east of the Andes, and including two-thirds of the whole country, forms part of the forest-plains of the Amazon. This region is mostly uninhabited, but its vast forests are rich in valuable products.

105. The *minerals* of Peru are very important, including gold, silver, quicksilver, copper, lead, iron, borax, and nitrate of soda.

The *mines* are very inefficiently worked. They are generally in mountain districts, to which it is impossible to convey machinery.

106. The *vegetable* products are the cereals, sugar, cotton, tobacco, and various fruits. The cinchona, common on the eastern slopes of the Andes, is one of the most important forest trees.

107. The *animals* include the llama, which is used by the Indians as a beast of burden; and the alpaca. But few cattle are reared. Sheep are numerous.

108. The inhabitants of Peru live principally along the river-valleys of the coast region and on the table-lands. About one-half are Indians.

The *Chunchos*, a fierce tribe of savages, live near the head-waters of the Purus.

Towns.—109. *Lima* (121,000), about seven miles from the Pacific, was founded by Pizarro, whose remains are deposited in its cathedral. Its university, the oldest in America, has a library of 20,000 volumes. The houses are low on account of earthquakes. *Callao*, the sea-port of Lima, and connected with it by railway, is a fortified town, and has an important roadstead. In 1746 Callao was entirely

destroyed by an earthquake. The sea retired to a great distance, and then suddenly returned, overwhelming the town. Of about 3000 inhabitants, only sixteen escaped. *Cuzco*, in the interior, was the capital of the Incas, and contained a magnificent temple of the Sun. *Arequipa* carries on considerable trade through the port of *Ilay*. *Pasco* is an important mining town.

110. Peru has done much to develop its resources by the construction of railways. A line crosses the Andes, from Lima to Oroya, and thence to the silver-mines of Cerro de Pasco, 2½ miles above the sea. Another mountain railway runs from Mollendo to Lake Titicaca, and thence to Cuzco, the ancient capital.

111. The *exports* are sugar, cotton, nitrate of soda, and wool. The *imports* are cottons, woollens, silks, hardware, and other manufactures.

BOLIVIA.

112. Bolivia took its name from Bolivar, the liberator of South America from Spanish power. It was formerly called Upper Peru. It formed a part of the empire of the Incas.

113. Bolivia is now an inland country, comprising a mountain and table-land region on the west, and a *montaña* on the east. The mountains are very high, the western range presenting an almost impassable barrier between the coast region and the plateau. The table-land here attains its greatest breadth, and is the chief seat of the population.

114. The highland lake of Titicaca is on the borders of Bolivia and Peru. This lake is elevated above the limit of trees. Small steamers navigate its waters. On a small island in the lake are the ruins of a magnificent temple of the Sun, the god of the ancient Incas.

Products.—115. The table-lands yield wheat, maize, and other kinds of grain, and the higher mountain slopes furnish pasturage for sheep and llamas.

116. Bolivia is rich in minerals, including silver, copper, and gold. The silver-mines of Potosi, once a source of great wealth, are much less productive than formerly.

Towns.—117. The chief cities are all on the plateau.

Chuquisaca, or *Sucre*, the present capital, is noted for its silver-mines, its magnificent cathedral, and its ancient ruins. *La Paz* (60,000) is the largest city and the chief commercial centre. *Oruro*, situated in a rich mining district, over 12,000 feet above the level of the sea, is an important town.

118. The *exports* are copper, silver, nitre, guano, cacao, and Peruvian bark. The *imports* include iron, hardware, silks, and various manufactured goods.

CHILE.

119. Chile (or Chili) formed a part of the empire of the Incas. The Spaniards experienced great difficulty in subduing the warlike natives of the south.

Chile became independent in 1817. It is one of the most prosperous of the South American States.

120. Chile lies wholly on the west side of the Andes. It extends 1200 miles along the Pacific, and has a breadth varying from 90 to 130 miles. A large part of the country consists of mountain ridges separated by deep valleys.

121. *Aconcagua*, one of the highest peaks of the Andes, is on the borders of Chile. There are several passes across the Andes, some of which are very dangerous, winding along ledges so narrow that two mules cannot go abreast.

122. Chile is noted for earthquakes. One of great violence occurred in 1822, when an extent of coast fifty miles in length was elevated three feet above its former level.

123. The soil is generally very fertile, except towards the north, where rain is almost unknown. The climate is temperate and very salubrious. (See 32, 33.)

124. The minerals are silver, copper, and nitrate of soda. The copper-mines of Chile are very productive.

The vegetable products are maize, wheat, barley, hemp, and potatoes. Chile is supposed to be the native region of the potato.

125. The inhabitants, mostly Spaniards and Indians, are more energetic and enterprising than those of most other countries of South America.

Towns.—126. The cities of Chile have suffered much from earthquakes.

Santiago (200,000), the capital and largest city, is situated in a fertile plain at the foot of the Andes. It contains a university, a military academy, a normal school, and a public library of 21,000 volumes. Its foreign trade is carried on through Valparaiso, with which it is connected by a railway.

Valparaiso (98,000), on a bay of the same name, is the chief port, and nearly all the trade of the country passes through it. **Concepcion** and **Copiapó** are important cities.

127. The chief pursuits are mining and agriculture.

Chile has several hundred miles of railway. One line crosses the Andes, connecting Santiago and Buenos Ayres.

128. The foreign trade is chiefly with Great Britain. The exports are nitrate of soda, copper, silver, wheat, hemp wool, and guano. The imports are cottons, woollens, iron, and nearly all kinds of manufactured goods.

129. **Araucania**, in the south, after long maintaining its independence, has recently submitted to the power of Chile. The western part of **Tierra del Fuego** belongs to Chile.

THE ARGENTINE REPUBLIC.

130. The Argentine Republic, or *La Plata*, one of the most prosperous States of South America, became independent of Spain in 1816. It takes its name from the *La Plata*, or *Silver River*. Buenos Ayres seceded and formed a separate State from 1853 to 1860.

131. The surface generally consists of immense plains, called *pampas*, which produce tall grass and gigantic thistles. Large tracts of country are so impregnated with salt as to be quite barren. An extensive desert in the north is called the *Gran Chaco*.

There is very little rain throughout a large part of the interior. The rivers are the *La Plata* and its tributaries, and the *Colorado*. Salt lakes are numerous.

132. The products include maize, wheat, tobacco, sugar, and maté. Agriculture is greatly neglected. The chief wealth of the country consists in vast herds of cattle and horses. The rearing of sheep is a leading industry.

133. The inhabitants consist of Indians, Spaniards, and mixed races. The Spaniards are the ruling race. The inhabitants of the pampas are a mixed race called *Guachos*. They spend much of their time on horseback, galloping over the plains after the wild cattle and horses. Beef is their chief food.

Towns.—134. **Buenos Ayres**—good air—(460,000), the capital and largest city, is situated on the *La Plata*, 150 miles from the sea. The river is here over 30 miles broad. The city has a large trade and important manufactures. It is connected by railway with Santiago in Chile.

Parana was the capital during the independence of the Province of Buenos Ayres. **Mendoza** has important trade with Chile, carried on through mountain passes. **Tucuman**, **Corrientes**, **Cordova**, and **San Juan** are important towns.

135. The foreign trade is largely with Great Britain. The exports are hides, horns, tallow, wool, hair, and dried beef. The imports include cottons, woollens, lumber, and hardware.

136. The Argentine Republic has been one of the most prosperous and progressive countries of South America. Many foreign colonists, chiefly from Italy, France, and Spain, but some also from Great Britain and Germany, have settled in the country, engaging principally in agriculture. Great depression has, however, recently resulted from the reckless expenditure of borrowed money and from mismanagement of the financial affairs of the republic.

137. The eastern part of Patagonia belongs to the Argentine Republic. The territory is for the most part a stony desert.

PARAGUAY—URUGUAY.

138. The Patagonians are Indian savages. Their houses are formed of stakes driven into the ground and covered with skins. The Patagonians are expert horsemen, and they spend their time in hunting wild cattle, the guanaco, and the emeu.

PARAGUAY.

139. Paraguay formed part of the Spanish vice-royalty of Buenos Ayres. On gaining its independence, it refused to join the Argentine Confederation.

From 1812 to 1840 Paraguay was ruled by Dr. Francia, a native Creole. Under his government all foreigners were excluded. This absurd policy is now abandoned.

From 1864 to 1870 Paraguay was engaged in a disastrous war with Brazil, the Argentine Republic, and Uruguay.

140. Paraguay is wholly inland, between the rivers Parana and Paraguay. It is hilly and mountainous in the north-east. The southern portion of the country is made up of gentle slopes covered with luxuriant forests, and of rich alluvial plains of wonderful fertility, varied with marshes and shallow pools of water.

141. The climate is warm temperate, and is noted for its salubrity.

142. The vegetable products are maize, rice, coffee, cacao, indigo, tobacco, sugar-cane, and cotton.

One of the most important products is the maté shrub, or Paraguay tea, the leaves of which are used in various countries of South America as a tea.

Among the forest trees are rosewood, the india-rubber tree, and various gum trees and dye woods.

143. The inhabitants are chiefly native Indians. Owing to the efforts of Dr. Francia in establishing schools in all parts of the country, the Indians are more intelligent than those of most of the neighboring States.

Towns.—144. Asuncion (25,000), the capital, is situated at the confluence of the Pilcomayo and Paraguay. It has considerable trade.

The chief exports are maté, tobacco, rice, honey, rum, cattle, and hides. The imports are cottons and various manufactured goods.

URUGUAY.

145. Uruguay, on becoming free from Spanish power, was seized by Brazil. It became independent in 1828.

This State formed the eastern portion of the Spanish possessions, and hence was called *Banda Oriental*, or the *Eastern Bound*.

146. Much of the interior is hilly. There are also extensive plains, sustaining large numbers of cattle, horses, and sheep, which constitute the chief wealth of the country.

Maize, wheat, and various other kinds of grain are cultivated, but agriculture is in a backward state.

Towns.—147. Monte Video (105,000), the capital, is near the mouth of the La Plata, and has considerable trade.

148. The chief exports are beef, tallow, hides, horns, wool, and hair. The imports include manufactured goods of all kinds.

EXERCISE I.

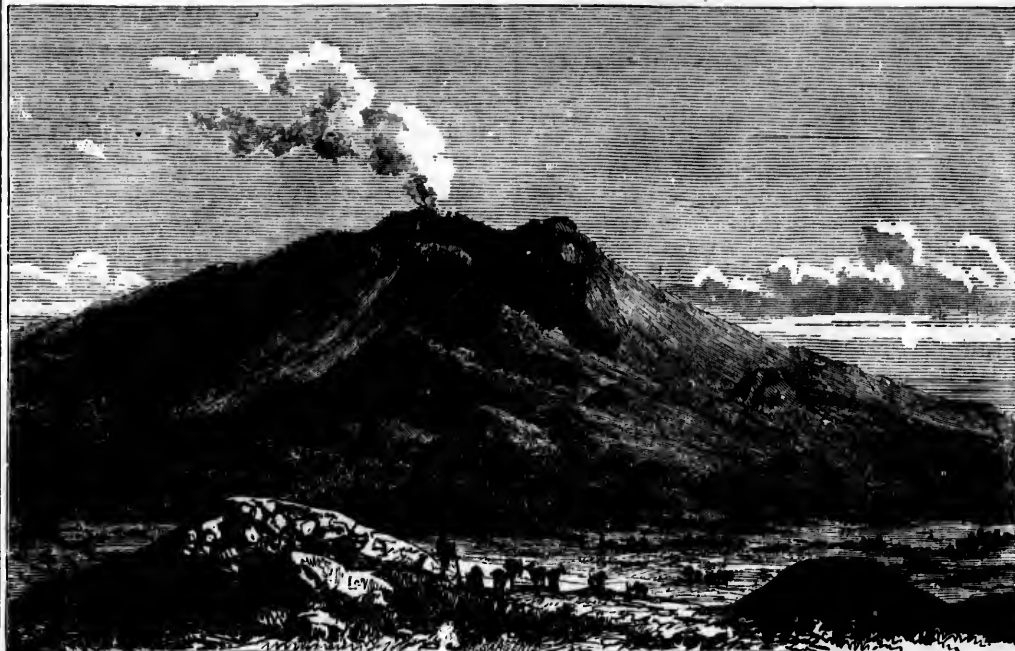
[MAP OF SOUTH AMERICA.]

Point out on the map of South America, and state the position of, the coast waters, capes, islands, and mountains. Point out and describe the rivers and lakes. Give the bounds of the different countries, and point out their capitals. Name the countries that border on Brazil.

EXERCISE II.

Draw a map of South America.

EUROPE.



ETNA.

I. History.—1. With the exception of Australia, Europe is the smallest of the great divisions, and has generally less grandeur in its physical features, as mountains, rivers, and lakes. It ranks first in civilization, influence, and power.

The poets derive the name from Europa, the daughter of a Phœnician king. Some trace it to an eastern word signifying *sunset*, or the *west*. Others derive it from two Greek words signifying *wide view*, applied first to the country north of Greece, in contrast with the narrow limits of the peninsula.

2. Europe was settled at a very early period by people from Asia, who continued long in a savage state, whilst civilized and powerful nations flourished in Western Asia and Northern Africa. The peninsula of Greece, emerging first from barbarism, at length, about 400 years before the Christian era, outstripped all other parts of the world in civilization, literature, and power.

3. The central peninsula, or Italy, next obtained the pre-eminence, and gave laws to the world. Rome, a small State, said to have been founded 753 B.C., extended its power gradually, until, at the Christian era, it embraced within its empire Southern and Central Europe, Western Asia, and Northern Africa.

4. Northern Europe was still occupied by barbarous hordes, who at different times had threatened the Roman Empire with destruction. Finally, 476 A.D., when the citizens of this once powerful empire were enfeebled by luxury and vice, the northern barbarians, who had already established themselves in the provinces, rushed in and took possession of the capital. Throughout Europe all was now in a state of unrest and anarchy. Civilization and learning were well-nigh extinguished, and the darkness of the Middle Ages ensued.

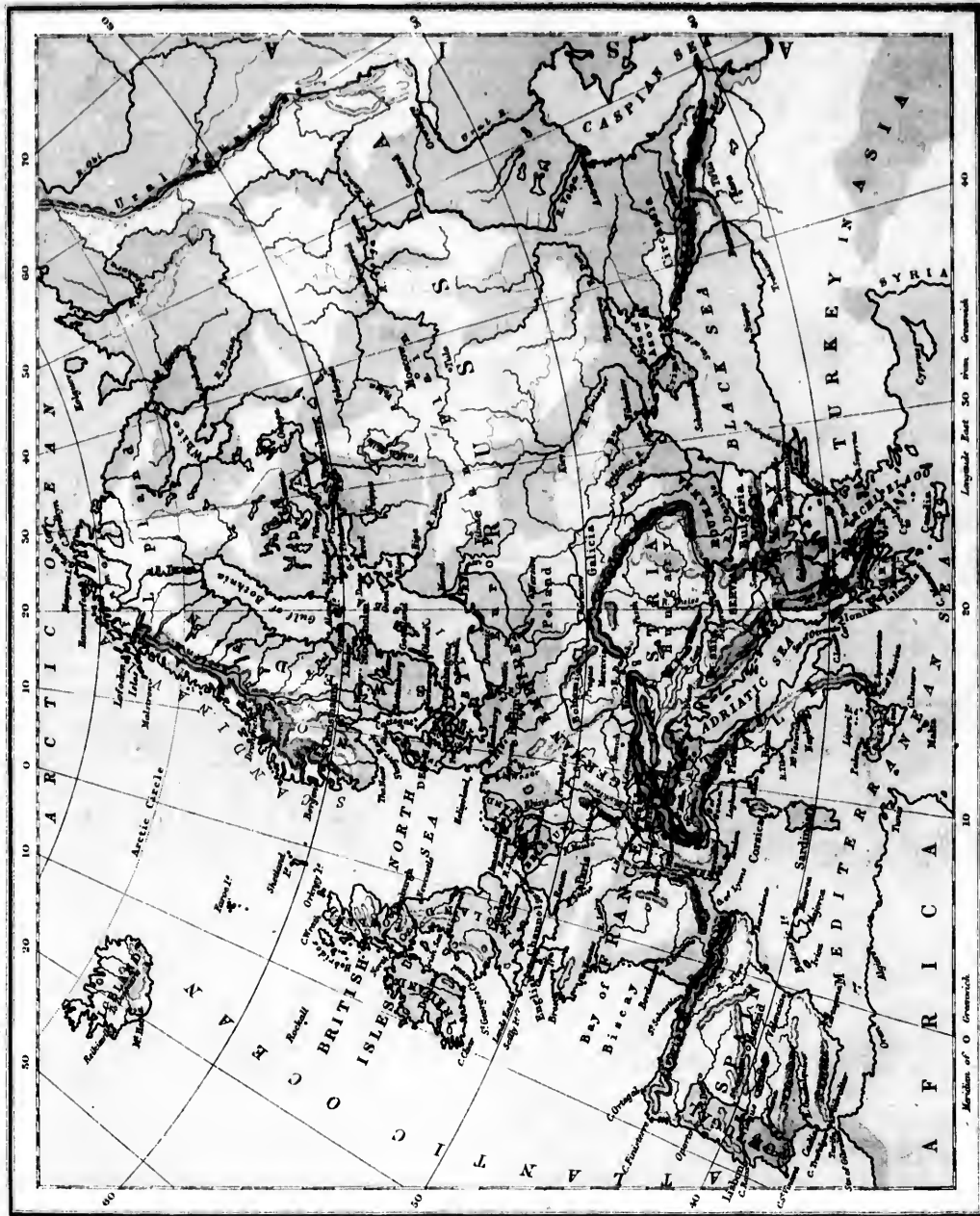
5. The Mohammedans entered Europe by the Strait of Gibraltar in 711. Having seized nearly all the south-western peninsula, they

eminence,
to have been
the Chris-
tial Europe,

ides, who at
struction.
ful empire
rians, who
shed in and
l was now
d learning
iddle Ages

f Gibraltar
nsula, they

EUROPE



Green - General elevation More 5000 feet
Blue - Low water level and below 5000 feet
Pink - Political Divisions

Scale of 432 Miles to an Inch.
One Square Inch represents 288 times the Area of One Sq. Inch of Map.

Longitude East 30 from Greenwich

Meridian of 0 Greenwich

English Miles. 400

t
t
I
F
t
a
c
a
w
s
a
i
G
P
t
t
s

crossed the Pyrenees, and marched northwards, bidding fair to overrun the whole continent. When near the middle of France, they were defeated and driven back by Charles Martel, 733 A.D.

6. Then (779-814) arose in the west a great conqueror, Charlemagne, who brought under his power France, Germany, and Italy. On his death his empire fell to pieces. During the next two centuries, the principal nations of Modern Europe were organized by the blending together of numerous petty States.

7. The twelfth and thirteenth centuries were remarkable for those expeditions called the Crusades, sent from Western Europe to take Palestine from the Mohammedans.

8. The close of the fifteenth and beginning of the sixteenth centuries witnessed several events which largely influenced the political and social condition of Europe. Among these may be mentioned the invention of printing, the discovery of America, the discovery of the passage round the Cape of Good Hope, the Reformation, the overthrow of the Byzantine Empire by the Turks, and the study of Grecian literature.

9. At the commencement of the present century nearly the whole of Europe was disturbed by the wars of Napoleon I. The most important political changes of more recent times are:—

The union of the various Italian States under one sovereign (1860-1870); the organization of the powerful German Empire (1871); and the partial breaking up of Turkey into small independent States (1878).

II. **Position.**—10. Europe is principally in the North Temperate Zone. It occupies the north-western part of the Old World, forming a large peninsula of the eastern continent.

It is bounded on the north by the Arctic Ocean; on the east by Asia; on the south by Asia, the Black Sea, and Mediterranean Sea; and on the west by the Atlantic Ocean.

11. The **boundary line** between Europe and Asia is formed by the Ural Mountains, Ural River, Caspian Sea, Caucasus Mountains, Black Sea, the Bosphorus, Sea of Marmora, and the Dardanelles.

Cape Nordkyn, in Norway, is the most northern point; **Tarifa Point**, near Gibraltar, the most southern; the **mouth of the Kara**, the most eastern; and **Cape Roca**, in Portugal, the most western. N. lat. 36°—71° 10'; long. 9° 32' W.—68° E.

III. **Form.**—12. The main body of Europe is triangular, the angular points being the mouth of the Kara, the eastern extremity of the Caucasus, and the south-west of France. To this must be added the peninsulas of Scandinavia and Jutland on the north-west; and the three peninsulas, Spain, Italy, and Greece, on the south;—altogether including one-third of the continent.

IV. **Coast.**—13. Europe is greatly broken by the sea, on account of which it has much more coast, in proportion to its size, than any other great division. This physical feature gives it more easy intercourse with other parts of the world, promoting its commerce and civilization.

The coast-line exceeds 20,000 miles. Excepting the interior of the north-east, no part is over 400 miles from the sea.

14. The principal **coast waters** are, the *White Sea* and the *Sea of Kara*, on the north; the *Caspian Sea*, on the south-east; the *Sea of Azof*, *Kertch Strait*, the *Black Sea*,

the *Bosphorus* or *Strait of Constantinople*, *Sea of Marmora*, the *Dardanelles*, the *Aegean*, *Gulf of Lepanto*, *Strait of Otranto*, *Adriatic Sea*, *Gulf of Taranto*, *Strait of Messina*, *Strait of Bonifacio*, *Gulf of Genoa*, *Gulf of Lions*, and the *Strait of Gibraltar*, on the south; the *Bay of Biscay*, the *English Channel*, *Strait of Dover*, *St. George's Channel*, *Irish Sea*, *North Channel*, *North Sea* or *German Ocean*, the *Skager Rack*, *Cattegat*, *Great Belt*, *Little Belt*, the *Sound*, the *Baltic Sea*, and the *Gulfs of Riga*, *Finland*, and *Bothnia*, on the west.

15. The **Mediterranean Sea** is saltier than the ocean, in consequence of the great evaporation from the surface. For the same reason it has a lower level than the Atlantic, and a current is constantly flowing in through the Strait of Gibraltar.

16. The **Black Sea**, receiving more water from the rivers than it loses by evaporation, is fresher than the ocean, and sends a current to the Mediterranean.

The **Baltic** is very shallow, not exceeding 1100 feet. It is fresher than the ocean, and sends a current to the North Sea.

17. The most important capes are, *Nordkyn*, in Finmark; *Cape North*, on the island of Magerö; the *Naze*, south of Norway; the *Skov*, north of Jutland; *Duncansby Head* and *Cape Wrath*, on the north of Scotland; *Cape Clear*, south of Ireland; *Land's End*, south-west of England; *La Hague*, north-west of France; *Finisterre*, in Spain; *Roca* and *St. Vincent*, in Portugal; *Tarifa Point*, on the south of Spain; *Passaro*, in Sicily; *Spartivento* and *Leuca*, in Italy; and *Matapan*, in Greece.

18. The chief **islands** on the coast are:—

In the Arctic Ocean—the *Lofoden*, belonging to Norway and Sweden; *Spitzbergen* and *Nova Zembla*, to Russia; and *Iceland*, to Denmark.

In the Atlantic Ocean—the *Faroe*, belonging to Denmark; the *British Isles*, forming an independent kingdom; and the *Azores*, belonging to Portugal.

In the Baltic—*Fünen*, *Seeland*, *Laaland*, and *Bornholm*, belonging to Denmark; *Oland* and *Gotland*, to Sweden; and *Oesel*, *Dago*, and the *Aland Archipelago*, to Russia.

In the Mediterranean—the *Balearic Isles*, belonging to Spain; *Sicily*, *Sardinia*, *Elba*, and the *Lipari Isles*, to Italy; *Corsica*, to France; *Malta*, to Great Britain; the *Ionian Isles*, *Negropon*: or *Eubæa*, and the *Cyclades*, to Greece; *Candia* or *Crete*, *Samothrake*, and *Lemnos* or *Stalimni*, to Turkey.

19. The **Maltese** group embraces *Malta*, *Comino*, and *Gozo*. They were taken from France by Great Britain, in 1800. The surface is rocky, and the soil thin, but carefully cultivated. The heat of summer is intense, and snow is unknown in winter. The products are cotton, grapes, olives, figs, oranges, and honey. The inhabitants, numbering 160,000, are mostly Roman Catholics.

Malta, the largest of the group, is 17 miles in length, and has an area of 96 square miles. Its history is full of interest, extending back to the earliest ages. From its central position and from the great strength of its fortifications, Malta is accounted one of the most valuable possessions of Great Britain, and is the headquarters of her fleet in the Mediterranean. *Valletta* (60,000), the capital, is

a beautiful city, noted for its strong fortifications, which are mostly hewn from the solid rock.

20. **Heligoland** (*holy land*) was formerly regarded as sacred to the goddess Hertha. It belonged to Great Britain from 1807 to 1890. The island, situated about forty miles from the mouth of the Elbe, is about three miles in circumference, and consists of a rock 200 feet high, with a low sandy shore on the south-east. It has been much reduced in size by the action of the sea. Fishing is the chief pursuit. Population about 2000. Heligoland now belongs to Germany.

For a description of other islands, see the countries to which they belong.

21. The peninsulas of Europe are, the *Crimea*, the *Hellenic* or *Grecian Peninsula* (the southern part of which is called the *Morcia*), *Italy*, the *Iberic* or *Spanish Peninsula*, *Jutland*, and *Scandinavia*.

V. **Area**.—22. Europe contains about one-fourteenth of the land-surface of the Earth. It is about one-sixth larger than the Dominion of Canada.

The area is 3,800,000 square miles, or it equals a square of 1950 miles. The extreme length, from south-west to north-east, is 3400 miles.

VI. **Surface**.—23. The main body of Europe comprises two general slopes, a north-westerly and a southerly, as indicated by the courses of the rivers. The continent may be divided into a lowland region in the north-east, and a highland region in the west and south-west.

Without including the highlands of Scandinavia, the elevated portion lies generally south-west of a line drawn from the mouth of the Danube to that of the Elbe.

24. **Low Europe**, embracing two-thirds of the whole area, is an immense plain, bounded on the north by the Arctic Ocean; on the east by the Ural Mountains and Caspian Sea; on the south by the Caucasus Mountains, the Black Sea, and the Carpathian Mountains; and on the west by the North Sea and the Scandinavian Mountains. Throughout this whole extent, the Valdai Hills, which rise by a gentle swell to the height of 1100 feet, forming the parting ground between the two slopes, are the greatest elevations.

25. The **Scandinavian Mountains**, in the north-western peninsula, form a wall along the Atlantic coast from Cape Nordkyn to the Naaze. The middle portion of this range is called the *Dovre* field; the northern, the *Kiolen Mountains*. The system is much broken by deep and almost inaccessible ravines. The extreme height is 8670 feet; and the height of the snow-line, about 5000 feet.

26. The **Ural Mountains** extend from the Arctic Ocean southerly about 1300 miles. The average height is about 2000 feet; the extreme height, 5490 feet. The range separates the great plains of Europe and Asia.

27. The **Caucasus Mountains** stretch from the Caspian to the Black Sea, about 700 miles. The average height is about 8500 feet. *Elburz*, 18,490 feet, is the highest peak in Europe. The snow-line has an elevation of 11,000 feet.

28. The **south-west of Europe** is very mountainous. The Alpine system is the most important. It comprises the *Alps*, stretching in a curve line from the Gulf of Genoa to Vienna, 600 miles; the *Carpathian Mountains*, forming an

other curve on the north of the Danube; the *Apennines*, in Italy; the *Balkans*, extending south-easterly from the Adriatic to the Black Sea; and the *Pindus*, in Greece. The *Vosges* and *Cevennes*, on the west of the Rhine and the Rhone, and the *Black Forest Mountains*, on the east of the Rhine, may also be included in the same system.

29. The **Alps** are the grandest mountains of Europe; and, excluding the border Caucasus, contain the highest point. They are very wild and broken, and are celebrated for the beauty and sublimity of their scenery. Many of their summits are covered with snow throughout the year. The Alps are especially distinguished for the vast masses of ice called *glaciers* which are found in the high valleys.

30. The **glaciers** present a very interesting study. They are formed by the compacting of masses of snow. Some of them are 15 miles in length, with a breadth from 1 to 2 miles, and are supposed to be several hundred feet in depth. The great pressure from above causes them to move slowly down their bed, until they reach the warmer lowlands, where they are changed to streams of water. The Rhone, Rhine, and other rivers, have their origin in the glaciers. There are often crevasses or deep fissures in the glaciers, which, when concealed by light snow, are very dangerous to tourists. The *Mer de Glace* is one of the most noted glaciers.

31. The Alps take various names. From the Gulf of Genoa to Mount Viso, about 100 miles, they are called the *Maritime Alps*; thence to Mount Cenis are the *Cottian Alps*; then follow in order the *Graian* or *Grecian Alps*, the *Pennine Alps*, the *Lepontine Alps*, the *Rhætian Alps*, and the *Noric Alps* which terminate near the Danube. The *Carnic*, *Julian*, and *Dinaric Alps* extend along the north-east of the Adriatic Sea.

32. There are several **passes** over the Helvetian and Rhetian Alps. The *Stelvio Pass*, across the latter, having an elevation of 9174 feet, is the highest carriage road. The *Col de Geant* and *Cervin*, both in the Pennine Alps, and over 11,000 feet high, are the highest routes for foot passengers. The most frequented carriage road between France and Italy is across *Mount Cenis*, 6775 feet above the sea-level. Near this pass the mountain is pierced by a railway tunnel $7\frac{1}{2}$ miles in length.

Mont Blanc, 15,781 feet, is the highest point of the Alps. Other noted peaks are *Mount St. Gothard*, the *Simpton*, the *Finster-Aarhorn*, and *Jungfrau*.

33. The **Carpathian Mountains** extend in a curve line, 800 miles in length, from Presburg on the Danube to the *Iron Gate* on the same river, partly enclosing Hungary and Transylvania. The highest peak, 9528 feet high, is in Transylvania.

The **Balkan** or **Hæmus Mountains**, in Turkey, are generally clothed with forests to their summits. Their greatest height is 9700 feet. They throw off various subordinate ranges, one of which, on the north, terminates abruptly at the Danube, opposite the southern extremity of the Carpathians. The narrow defile, through which the river flows, is called the *Iron Gate*.

34. The **mountains of the Hellenic peninsula** are not generally very elevated. The snow-line is about 9000 feet above the sea. *Olympus*, the fabled abode of the ancient Grecian gods, has an elevation of 9754 feet. Further south are the bold peaks of *Ossa* and *Pelion*. Between Olympus and Ossa is the beautiful and celebrated *Val of Tempe*.

35. The **Apennines** extend from the Maritime Alps throughout the whole of the Italian peninsula to the Strait of Messina. With a slight interruption at the strait, the range is continued through the Island of Sicily.



IRON GATE OF DANUBE.

The average height is from 3000 to 5000 feet. Near the middle of the range are several peaks from 7000 to 8000 feet high. *Monte Corno*, 9590 feet, is the highest summit.

36. **Mount Etna**, an isolated mountain in Sicily, is one of the most celebrated volcanoes in the world. From a base of about ninety miles in circumference, it rises like an immense cone to the height of 10,874 feet.

Vesuvius, a detached peak, ten miles from Naples, is the only active volcano on the continent of Europe. Its height, which varies at different times, is about 3950 feet.

37. The **Spanish peninsula** consists mainly of an elevated plateau, with several mountain ranges extending east and west. The principal ranges are, the *Pyrenees*, the *Cantabrian Mountains*, the *Sierra Gredos*, the *Sierra Toledo*, the *Sierra Morena*, and the *Sierra Nevada*.

38. The **Pyrenees**, between France and Spain, have an extreme elevation of 11,168 feet; the **Sierra Gredos**, of 10,550 feet; and the **Sierra Nevada**, of 11,660 feet. The snow-line in the Pyrenees has an elevation of 8000 feet. The northern slopes are generally covered with forests, whilst the steep rocky walls on the south are destitute of trees.

VII. **Rivers**.—39. The rivers of Europe drain less extensive basins, and hence are smaller, than those of the other continents. The rivers of the great plain are the largest, though not generally of the greatest commercial importance. The **Volga**, the longest river in Europe, rises in the Valdai Hills, 633 feet above the level of the Caspian Sea. It enters the sea by many shallow mouths. The **Dniéper** and the **Don** are the next in size of the rivers of the plain.

40. Several of the most important rivers of the highland division of Europe, as the *Danub*, the *Rhine*, the *Rhone*, and the *Po*, rise in the Alps.

The **Danube** is the second in size of the rivers of Europe. It is of great importance to the commerce of Germany, Austro-Hungary, and Roumania. The **Rhine** is noted both as a great highway for trade, and on account of the fine scenery along its middle and upper course.

41. In its upper course the Rhine flows into a deep basin, forming *Lake Constance*. A few miles below the lake are the *Falls of Schaffhausen*, the most noted waterfall in Europe.

42. In the following tables are the principal rivers, arranged according to the general slopes of the continent. The pupil can learn their position, source, and the waters into which they flow, from the map.

RIVERS OF THE NORTH-WEST SLOPE.

Name.	Length in English miles.	Name.	Length in English miles.
Petchora.....	900	Mouze.....	550
Dwina.....	700	Scheldt.....	225
Neva.....	40	Selne.....	430
Duna.....	500	Loire.....	550
Niemen.....	400	Garonne.....	350
Vistula.....	620	Douro.....	450
Oder.....	550	Tagus.....	525
Elbe.....	670	Guadiana.....	400
Weeser.....	350	Guadalquivir.....	300
Rhine.....	880		

RIVERS OF THE SOUTH-EAST SLOPE.

Name.	Length in English miles.	Name.	Length in English miles.
Ebro.....	420	Bug.....	340
Rhone.....	490	Dniéper.....	1200
Tiber.....	185	Don.....	1100
Po.....	450	Volga.....	2400
Danube.....	1850	Ural.....	1040
Dniester.....	700		

VIII. **Lakes**.—43. Lakes are numerous, especially in the north, but none of them are very large.

The principal lakes in the north of Europe are:—

Ladoga, *Onega*, *Saima*, and *Peipus*, in Russia; and *Wener*, *Wetter*, and *Mülar*, in Sweden.

Ladoga, the largest lake in Europe, is 120 miles in length, and has an area of 6800 square miles.

44. The **Alpine Lakes** are smaller than those of the north; but their beauty is the admiration of tourists and the theme of the poet's song.

On the Swiss side of the Alps are the *Lake of Geneva*, *Constance*, *Zurich*, *Lucerne*, and *Neufchatel*; on the Italian side, *Maggiore*, *Como*, and *Garda*.

The **Lake of Geneva**, or **Lake Lemru**, in the basin of the Rhone, is 50 miles long, 8 miles in extreme breadth, and is 1150 feet above the sea. **Constance**, in the basin of the Rhine, is about the same length, but has a greater average breadth. The rivers are remarkably clear on leaving these lakes.

IX. **Soil**.—45. The soil of Europe is generally fertile and

carefully tilled. There are no extensive deserts. The frozen regions in the extreme north are unfit for cultivation; there are also barren salt tracts in the neighborhood of the Caspian Sea.

X. Climate.—46. Europe has a milder climate than any other part of the world at the same distance from the Equator. This is especially true of those countries bordering on the Atlantic Ocean.

In consequence of a maritime situation, the influence of the Gulf Stream, and the prevalence of south-westerly winds, the western side of the continent has a more equable temperature than the interior. Hot winds from the deserts of Africa often render the heat very oppressive in the southern peninsulas, particularly in Italy; whilst a northerly aspect, and winds from the Arctic Ocean, cause severe cold in the north. (*See Physical Geography*, 97, 101, 134, 127.)

47. The humid south-westerly winds give much more rain on the Atlantic coast than in the interior. The quantity of rain also decreases towards the north.

In the southern countries the rain falls most abundantly in winter; in the central countries, in autumn; and in the northern, in summer.

Within a limited district on the coast of Portugal the annual depth of rain is 111 inches; on the west of Ireland, 47 inches; and in Eastern Europe, only 15 inches.

XI. Minerals.—48. The precious metals are less plentiful than in the other great divisions; but all the most useful minerals are abundant.

The richest gold and silver mines are in the Carpathian Mountains. Gold, diamonds, and platinum are obtained from the Ural Mountains. Iron is widely distributed, and is very plentiful in Britain, Scandinavia, and France. Coal is most abundant in Britain and Belgium; copper in Britain, the Ural Mountains, and Norway; lead in England and Spain; tin in England and Germany; quicksilver in Spain and Hungary; marble in Italy and Greece; sulphur in Italy; and salt in Austria, Germany, England, and Russia.

XII. Plants.—49. The vegetation of the southern peninsulas is sub-tropical, including palms, evergreen oaks, mulberries, olives, figs, pomegranates, oranges, lemons, and vines.

The extreme north-east, within the Arctic Circle, is destitute of trees, and its vegetation consists principally of mosses and lichens.

50. The countries between these extremes yield almost every variety of products belonging to the Temperate Zone.

Between the Baltic and the Ural Mountains are immense forests, in which pines and other cone-bearing trees predominate. Extensive treeless plains or steppes are found on the north of the Black and Caspian Seas.

51. In the south of the main body of Europe the plains and low valleys are clothed with vineyards, grain fields, orchards of peaches, prunes, and pears, and groves of chestnut, walnut, and mulberry trees.

As we ascend the mountain slopes, we pass from forests of oak and beech, and the wheat fields, to the spruces, pines, and hardier grains; thence to the shrubs, alpine flowers, and eternal snows.

Wheat is cultivated as far north as the middle of Norway and the Valdai Hills; barley, as far as the White Sea, and considerably further north in Scandinavia. Generally, those plants which require a mild winter are found much further north on the Atlantic coast than in the interior.

XIII. Animals.—52. Wild animals are not numerous or of large size.

Fur-bearing animals and the reindeer are the most important in the northern regions. The forests of the central countries abound in bears, wolves, wild boars, and various kinds of deer.

53. The chamois is a beautiful animal inhabiting the high peaks of the Alps. It is noted for dexterity in leaping from crag to crag on the mountain heights. Large eagles are also found among the Alps.

Barbary apes are found in the south of Spain. The reptiles of Europe are small and generally harmless.

The northern coast waters abound in cod, herring, and salmon; the waters of the Mediterranean, in anchovy and tunny.

XIV. Inhabitants.—54. The population of Europe is over 342,000,000. The most densely peopled countries are Belgium and England. The inhabitants are generally much more intelligent and more highly civilized than those of Asia and Africa.

55. The great majority of the inhabitants belong to the Indo-European section of the Caucasian race, and although the different families are considerably mixed, they are divided into four great divisions:—

(1) The **Teutonic family** in the middle and north-west, including the *English, Lowland Scotch, Norwegians, Swedes, Danes, Dutch, and Germans.*

(2) The **Celtic family** in the west, including the *Irish, Highland Scotch, Welsh, French, and Belgians.*

(3) The **Græco-Latin family**, including the *Greeks* and the *Italians.*

(4) The **Slavonic family**, including the *Russians*, and the *Slavs* of Austria, Servia, and Roumania.

56. There are several small tribes of Mongollans, or Turanians, who resemble the inhabitants of Central Asia. The chief of these are the *Fins, Lapps, and Samoides*, near the Arctic Ocean; the *Kaimucks*, north of the Caucasus; the *Magyars*, in Hungary; and the *Turks*, in Turkey.

57. The **Christian religion** is embraced by nearly all the inhabitants of the Caucasian race. The **Protestant** form of Christianity prevails generally in the centre and north-west; the **Roman Catholic**, in the south; and the **Greek Church**, in the east and north. The **Turks** are **Mohammedans.**

Roman Catholics form nearly half the population; Protestants and Greeks nearly a fourth each. Mohammedans and heathens number about 4,000,000; Jews, about 2,000,000.

XV. Divisions.—58. Europe is very unequally divided into the following political divisions or sovereign States :—

Name.	Area in square miles.	Side of sq. in m.	Population.	Capital.
GREAT BRITAIN AND IRELAND . . .	121,431	348	37,740,000	London.
SWEDEN and . . .	170,980	414	4,700,000	Stockholm.
NORWAY	192,890	370	1,970,000	Christiania.
DENMARK	14,789	120	2,000,000	Copenhagen.
RUSSIA	2,180,000	1440	96,000,000	St. Petersburg.
GERMAN EMPIRE . . .	211,000	469	47,000,000	Berlin.
AUSTRO-HUNGARY . .	241,000	400	40,000,000	Vienna.
HOLLAND	12,731	112	4,390,000	Amsterdam.
BELGIUM	11,373	106	6,000,000	Brussels.
FRANCE	204,000	462	38,470,000	Paris.
SWITZERLAND	16,000	126	2,920,000	Berne.
SPAIN	107,670	444	17,570,000	Madrid.
PORTUGAL	34,608	190	5,060,000	Lisbon.
ITALY	114,400	338	30,000,000	Rome.
GREECE	25,000	139	2,160,000	Athens.
MONTENEGRO	3,642	90	236,000	Cettigna.
SERVIA	18,900	137	2,000,000	Belgrade.
ROUMANIA	48,300	220	5,370,000	Bucharest.
BULGARIA	24,600	157	2,000,000	Sophia.
EASTERN ROUMELIA .	13,600	117	900,000	Philippopolis.
TURKEY	64,000	253	4,900,000	Constantinople.

59. In addition to the above there are in Europe three very small States,—the *Republic of Andorra*, situated in a valley of the Pyrenees, having an area of 175 square miles; the *Principality of Liechtenstein*, in the mountainous district of the Upper Rhine, having an area of 60 square miles; and the *Grand Duchy of Luxembourg*, situated on the south-east of Belgium, having an area of 998 square miles, and a population of 213,283. The King of Holland is, by virtue of his office, Grand-Duke of Luxembourg.

60. Great Britain, Germany, France, Russia, Austro-Hungary, and Italy are the leading States of Europe. They are called the "six Great Powers."

Russia comprises nearly three-fifths of the territory of Europe.

XVI. Towns.—61. Europe contains many large and flourishing cities. London surpasses every other city in the world in wealth, commerce, and population. Paris, ranking next in size among the cities of Europe, is the first in splendor. The next in respect to population are Berlin, Vienna, Constantinople, and St. Petersburg.

Hammerfest (N. lat. 70° 40'), in Norway, is the most northerly town in Europe.

EXERCISE ON THE GLOBE—Find the length of the longest day and of the shortest day at Hammerfest.

XVII. Industries.—62. The chief pursuits of Europe are agriculture, manufacturing, mining, fishing, and commerce.

Agriculture is prosecuted with greatest skill in Great Britain, France, Belgium, and Germany; manufacturing, in Great Britain, France, Belgium, and Prussia; mining, in Great Britain, Austria, Germany, Spain, Norway and Sweden, and Russia. The most commercial countries are Great Britain, France, Holland, Germany, and Greece.

XVIII. Government.—63. The governments of Europe are generally hereditary limited monarchies. The laws are made by legislatures in which the people through their representatives have a voice, and the sovereign is guided in his public acts by responsible ministers.

64. Russia is an absolute monarchy, having no representative legislature. France and Switzerland are republics. Russia, Germany, and Austria are called empires.

THE BRITISH ISLES.

65. The British Isles consist of *Great Britain and Ireland*, with the numerous small islands adjacent.

It is said that the Phoenicians visited the British Islands many centuries before the Christian era, for the purpose of obtaining tin. Little, however, is known of their condition previous to 55 B.C., when Britain was invaded by the Romans under Julius Cæsar. At that early time the country was covered with forests, and the inhabitants were barbarous Celtic tribes, who lived principally by hunting and fishing, clothed themselves in skins, and stained their bodies with the juice of herbs.

Position.—66. The British Isles are in the northern part of the North Temperate Zone, and nearly in the centre of the land hemisphere. The Atlantic Ocean lies on the north and west; the North Sea on the east; the Strait of Dover on the south-east; and the English Channel on the south.

Ireland is separated from Great Britain by St. George's Channel, the Irish Sea, and the North Channel.

67. The *Strait of Dover*, at the narrowest part, is 21 miles across. It has been proposed to connect England with the continent of Europe by a tunnel passing under this strait.

68. The British Islands have many excellent harbors, and are most favorably situated for commerce.

The western shores are washed by the Gulf Stream; the prevailing winds are from the south-west; and the climate is mild and humid.

69. *Great Britain* is the largest European island, and it ranks as the eighth in size among the islands of the world. It includes three countries—*England*, in the south; *Wales*, in the west; and *Scotland*, in the north, having a united area of 88,774 square miles.

70. The area is about three times that of New Brunswick.

The island is about 608 miles in length, and 320 miles in extreme breadth. The most northerly point is *Dunnet Head*; the most southerly point is *Lizard Point*.

Scotland is separated from England by the Solway Firth, the Cheviot Hills, and the River Tweed.



LONDON.

ENGLAND AND WALES.

I. **History.**—71. Britain was a Roman province for nearly four centuries. Early in the fifth century Rome, now enfeebled and hastening to its downfall, abandoned the island.

72. During the unsettled period which followed the breaking up of the Roman Empire, three Teutonic tribes, the *Angles*, *Saxons*, and *Jutes*, crossed over from the continent on different occasions, dispossessed the original inhabitants, who were called Britons, and established a number of small kingdoms in Britain. Some of the Britons retired to the mountains of Wales and to Cornwall; others emigrated to Brittany in France.

73. The different kingdoms were constantly at war with each other, and encroaching on each other's bounds. Finally, in 827, Egbert became the supreme monarch. About the same time the country was called *England* or *Angles-land*.

74. England was again invaded and subjugated by foreigners in the year 1066. The Normans from France, who were now the conquerors, did not expel the Anglo-Saxons, but settled amongst them. For a few generations the Normans were lords of the land, and the Anglo-Saxons were serfs; then the two races were gradually blended, and all trace of distinction was obliterated.

75. Since the Norman Conquest, England has frequently been

laid waste by civil wars, but it has never been conquered by a foreign army.

Wales, occupied by the Britons, remained an independent State until 1283, when it was conquered by Edward I., and annexed to England.

76. The **Tudor Period** of English history (1485-1603) is noted for the great religious movement called the Reformation. The **Stuart Period** (1603-1714), which followed, was characterized by struggles between the Kings and Parliaments, which resulted in more firmly establishing the liberty of the People.

77. The **Guelph Period**, from 1714 to the present time, is noted for colonial extension. During this period most of the colonies now connected with the empire were acquired. This period is also noted for the wonderful progress of science and art.

II. **Position.**—78. England is between the same parallels as the south of Labrador.

N. lat. 49° 58'—55° 47'; lon. 1° 45' E.—5° 44' W.

III. **Form.**—79. England and Wales together present the rude outline of a triangle. The angular points are the mouth of the Tweed, South Foreland, and Land's End.

The north-east side measures 345 miles; the south side, 317; and the north-west, 425.

IV. **Coast.**—80. The coast line is irregular forming many bays and excellent harbors.

The total length of coast line is over 2000 miles.



ered by a
ent State
nnexed to

noted for
he Stuart
struggles
ore firmly

, is noted
colonies
period is

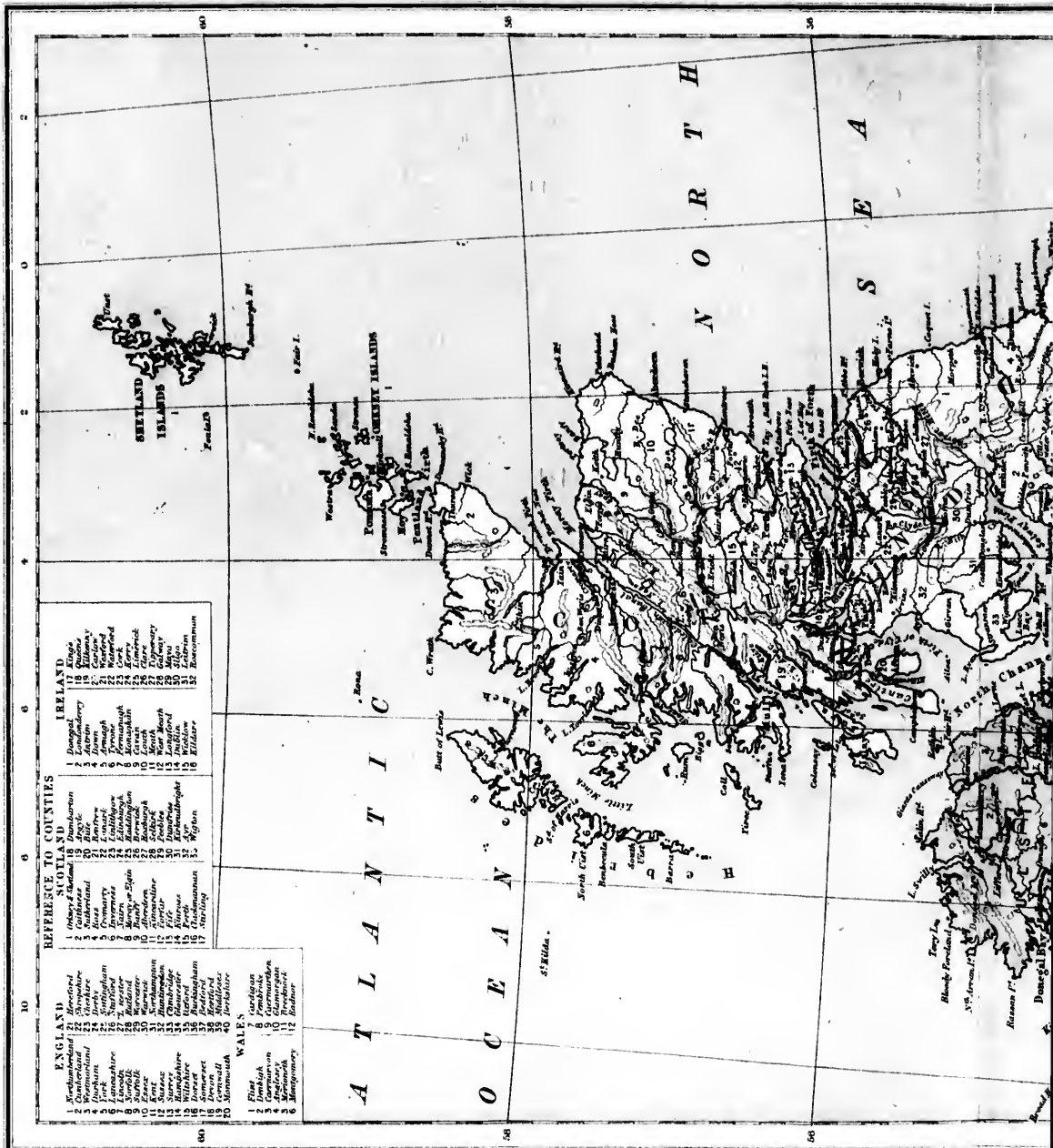
parallels

esent the
are the
nd.

de, 317;

ng many

BRITISH ISLANDS

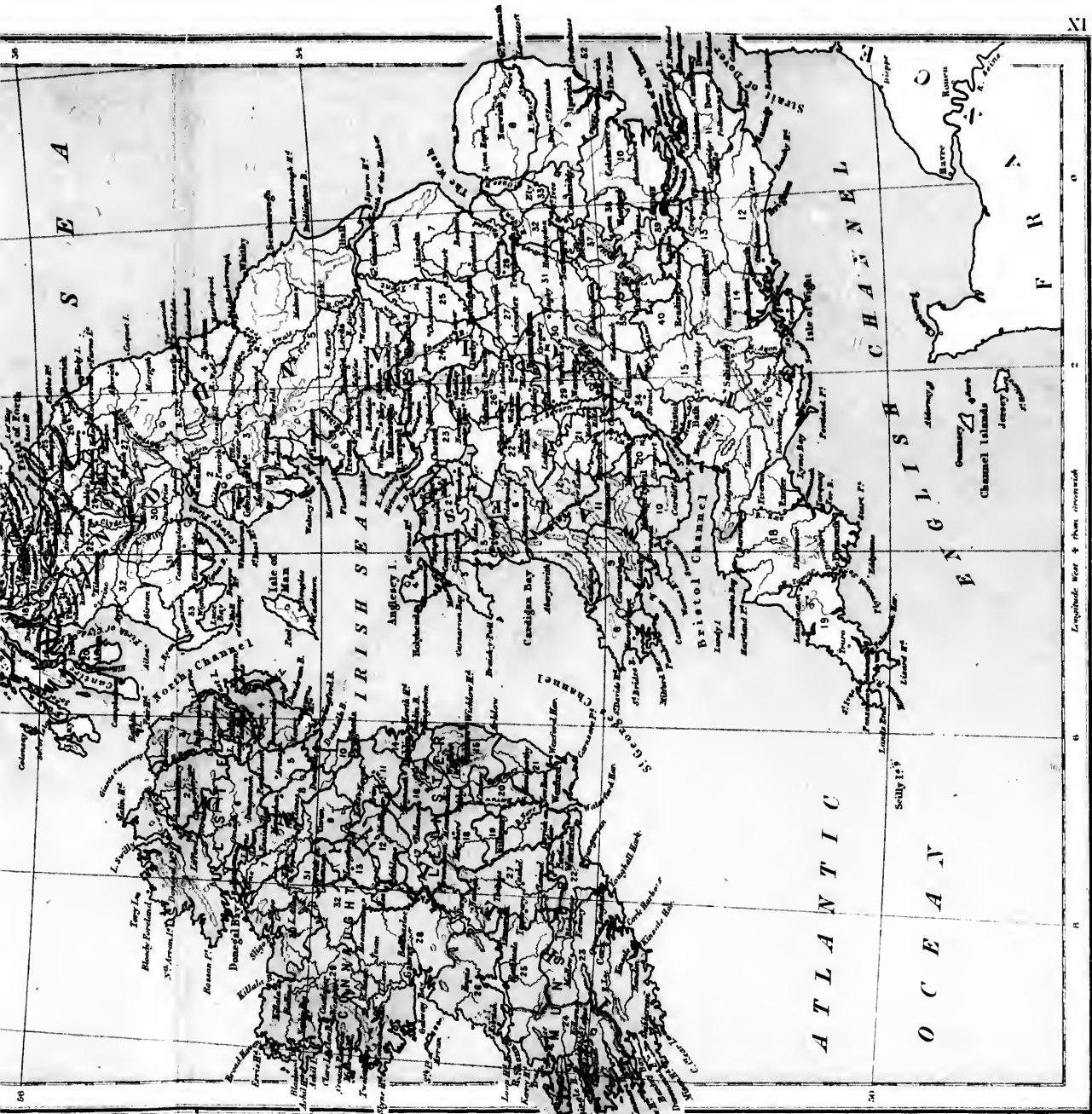


REFERENCE TO COUNTIES

ENGLAND	
1	Bedfordshire
2	Berkshire
3	Buckinghamshire
4	Cambridgeshire
5	Cheshire
6	Derbyshire
7	Devonshire
8	Essex
9	Gloucestershire
10	Hampshire
11	Hertfordshire
12	Herefordshire
13	Lincolnshire
14	Northamptonshire
15	Northumberland
16	Nottinghamshire
17	Shropshire
18	Suffolk
19	Surrey
20	Warwickshire
21	Westmoreland
22	Wiltshire
23	Yorkshire
24	Gloucestershire
25	Wiltshire
26	Devonshire
27	Essex
28	Gloucestershire
29	Wiltshire
30	Devonshire
31	Essex
32	Gloucestershire
33	Wiltshire
34	Devonshire
35	Essex
36	Gloucestershire
37	Wiltshire
38	Devonshire
39	Essex
40	Gloucestershire
41	Wiltshire
42	Devonshire
43	Essex
44	Gloucestershire
45	Wiltshire
46	Devonshire
47	Essex
48	Gloucestershire
49	Wiltshire
50	Devonshire
51	Essex
52	Gloucestershire
53	Wiltshire
54	Devonshire
55	Essex
56	Gloucestershire
57	Wiltshire
58	Devonshire
59	Essex
60	Gloucestershire
61	Wiltshire
62	Devonshire
63	Essex
64	Gloucestershire
65	Wiltshire
66	Devonshire
67	Essex
68	Gloucestershire
69	Wiltshire
70	Devonshire
71	Essex
72	Gloucestershire
73	Wiltshire
74	Devonshire
75	Essex
76	Gloucestershire
77	Wiltshire
78	Devonshire
79	Essex
80	Gloucestershire
81	Wiltshire
82	Devonshire
83	Essex
84	Gloucestershire
85	Wiltshire
86	Devonshire
87	Essex
88	Gloucestershire
89	Wiltshire
90	Devonshire
91	Essex
92	Gloucestershire
93	Wiltshire
94	Devonshire
95	Essex
96	Gloucestershire
97	Wiltshire
98	Devonshire
99	Essex
100	Gloucestershire

SCOTLAND	
1	Argyll
2	Barr
3	Highland
4	Perth
5	Argyll
6	Barr
7	Highland
8	Perth
9	Argyll
10	Barr
11	Highland
12	Perth
13	Argyll
14	Barr
15	Highland
16	Perth
17	Argyll
18	Barr
19	Highland
20	Perth
21	Argyll
22	Barr
23	Highland
24	Perth
25	Argyll
26	Barr
27	Highland
28	Perth
29	Argyll
30	Barr
31	Highland
32	Perth
33	Argyll
34	Barr
35	Highland
36	Perth
37	Argyll
38	Barr
39	Highland
40	Perth
41	Argyll
42	Barr
43	Highland
44	Perth
45	Argyll
46	Barr
47	Highland
48	Perth
49	Argyll
50	Barr
51	Highland
52	Perth
53	Argyll
54	Barr
55	Highland
56	Perth
57	Argyll
58	Barr
59	Highland
60	Perth
61	Argyll
62	Barr
63	Highland
64	Perth
65	Argyll
66	Barr
67	Highland
68	Perth
69	Argyll
70	Barr
71	Highland
72	Perth
73	Argyll
74	Barr
75	Highland
76	Perth
77	Argyll
78	Barr
79	Highland
80	Perth
81	Argyll
82	Barr
83	Highland
84	Perth
85	Argyll
86	Barr
87	Highland
88	Perth
89	Argyll
90	Barr
91	Highland
92	Perth
93	Argyll
94	Barr
95	Highland
96	Perth
97	Argyll
98	Barr
99	Highland
100	Perth

IRELAND	
1	Down
2	Ulster
3	Leinster
4	Munster
5	Ulster
6	Leinster
7	Munster
8	Ulster
9	Leinster
10	Munster
11	Ulster
12	Leinster
13	Munster
14	Ulster
15	Leinster
16	Munster
17	Ulster
18	Leinster
19	Munster
20	Ulster
21	Leinster
22	Munster
23	Ulster
24	Leinster
25	Munster
26	Ulster
27	Leinster
28	Munster
29	Ulster
30	Leinster
31	Munster
32	Ulster
33	Leinster
34	Munster
35	Ulster
36	Leinster
37	Munster
38	Ulster
39	Leinster
40	Munster
41	Ulster
42	Leinster
43	Munster
44	Ulster
45	Leinster
46	Munster
47	Ulster
48	Leinster
49	Munster
50	Ulster
51	Leinster
52	Munster
53	Ulster
54	Leinster
55	Munster
56	Ulster
57	Leinster
58	Munster
59	Ulster
60	Leinster
61	Munster
62	Ulster
63	Leinster
64	Munster
65	Ulster
66	Leinster
67	Munster
68	Ulster
69	Leinster
70	Munster
71	Ulster
72	Leinster
73	Munster
74	Ulster
75	Leinster
76	Munster
77	Ulster
78	Leinster
79	Munster
80	Ulster
81	Leinster
82	Munster
83	Ulster
84	Leinster
85	Munster
86	Ulster
87	Leinster
88	Munster
89	Ulster
90	Leinster
91	Munster
92	Ulster
93	Leinster
94	Munster
95	Ulster
96	Leinster
97	Munster
98	Ulster
99	Leinster
100	Munster



NI

English Miles
Scale of 60 Miles to an Inch.
One Square Inch represents 25 times the Area of the Ship's Deck at High Water.

Isle of Man
Wight

81. The principal
Mouth of the Humber;
the Downs; on the
Water, Poole Harbour,
Sound, Falmouth,
Barnstaple Bay,
Bay, Caermarthen,
Cardigan Bay,
Dee, Mersey, and

82. The chief of
Head, the Naze, North
Dunjeness, Beachy Head,
Lizard Point, and
Head, St. David's,
Head, and St. Bees.

83. The principal
Coquet, Sheppey,
and the Channel
head, Walney, and

84. Holy Island
carriages at low
the ruins of a famous

85. Thanet, famous
Kent, and is not
famous watering-place.

86. Wight, 23
from the mainland,
beauty of its scenery,
climate. Its chief
Newport is Carisbrooke.
Near Cowes, by
Victoria.

87. The Scilly
largest comprises
2000. Barley, oats,

88. The Channel
the time of the
group are Jersey,
miles from France,
and 6 miles broad.
The islands are
breed of cattle and
grain, vegetables,
peaches. Populus,
Peter's Port, on Guernsey.

89. Anglesey is
which, in the narrow
The strait is crossed
Britannia. Tubus
miles long and 1
the Druids, and
yielded immense
by an arched ca
packet to Dublin
51,000.

90. The Isle of
land, and Ireland
scenery is varied
zinc, and iron.

81. The principal **coast waters** are:—on the east, the *Mouth of the Humber*, the *Wash*, *Mouth of the Thames*, and the *Downs*; on the south, *Spithead*, the *Solent*, *Southampton Water*, *Poole Harbor*, *Weymouth Harbor*, *Tor Bay*, *Plymouth Sound*, *Falmouth Harbor*, and *Mount's Bay*; on the west, *Barnstaple Bay*, *Bridgewater Bay*, *Bristol Channel*, *Swansea Bay*, *Caermarthen Bay*, *Milford Haven*, *St. Bride's Bay*, *Cardigan Bay*, *Caernarvon Bay*, *Me.vai Strait*, *Mouths of the Dee*, *Mersey*, and *Ribble*, *Morecambe Bay*, and *Solway Firth*.

82. The chief **capes** are:—on the east, *Flamborough Head*, *Spurn Head*, the *Naze*, *North Foreland*, and *South Foreland*; on the south, *Dungeness*, *Beachy Head*, the *Needles*, *Portland Point*, *Start Point*, *Lizard Point*, and *Land's End*; on the west, *Hartland Point*, *Worm's Head*, *St. David's Head*, *Braich-y-Pell*, *Holyhead*, *Great Orme's Head*, and *St. Be's Head*.

83. The principal **islands** are, *Holy Island*, *Farna Islands*, *Coquet*, *Sheppey*, and *Thanet*, on the east; *Wight*, *Scilly Isles*, and the *Channel Isles*, on the south; *Lundy*, *Anglesey*, *Holyhead*, *Walney*, and *Isle of Man*, on the west.

84. **Holy Island**, about four miles in length, can be visited by carriages at low water. On the island are an ancient castle and the ruins of a famous abbey.

85. **Thanet** forms the north-eastern corner of the county of Kent, and is not now properly an island. On its shores are the famous watering-places, *Ramsgate* and *Margate*.

86. **Wight**, 23 miles in length, and 14 in breadth, is separated from the mainland by Spithead and the Solent. It is noted for the beauty of its scenery, and for the mildness and healthfulness of its climate. Its chief towns are *Newport*, *Ryde*, and *Cowes*. Near Newport is *Carisbrook Castle*, in which Charles I. was imprisoned. Near Cowes, by the sea, is *Osborne House*, a residence of Queen Victoria.

87. The **Scilly Isles** consist of about 150 islets and rocks. The largest comprises 1528 acres. Five are inhabited. Population, 2000. Barley, oats, and wheat are cultivated.

88. The **Channel Islands** have belonged to England since the time of the Norman Conquest. The chief islands of the group are *Jersey*, *Guernsey*, *Alderney*, and *Sark*. *Alderney* is 7 miles from France and 55 from England. *Jersey*, 10 miles long and 6 miles broad, comprises about two-thirds the whole area. The islands are noted for their beautiful scenery, and also for a breed of cattle known as *Alderneys*. The soil is fertile, yielding grain, vegetables, and such fruit as apples, pears, grapes, and peaches. Population, 92,000. *St. Helier's*, on Jersey, and *St. Peter's Port*, on Guernsey, are the chief towns.

89. **Anglesey** is separated from the mainland by Menai Strait, which, in the narrowest part, is about one-third of a mile broad. The strait is crossed by two bridges, a suspension bridge, and the Britannia Tubular Bridge for rail-cars. Anglesey is about 20 miles long and 17 in breadth. It contains interesting remains of the Druids, and ruins of ancient castles. The copper-mines have yielded immense wealth. **Holyhead Island** is joined to Anglesey by an arched causeway. Holyhead is the station of the steam-packet to Dublin, 70 miles distant. Population of Anglesey, 51,000.

90. The **Isle of Man** is nearly equidistant from England, Scotland, and Ireland. It is 33 miles long and 12 miles broad. The scenery is varied and beautiful. The island yields lead, copper, zinc, and iron. The inhabitants, numbering about 55,600, are

chiefly engaged in mining, fishing, and agriculture. *Douglas* (16,000), *Castletown*, and *Peel*, are the chief towns. The island has a legislature of its own.

V. **Area**.—91. England and Wales together have an area of 58,311 square miles—equal to a square of 242 miles. Wales comprises about one-seventh of the whole area.

VI. **Surface**.—92. Wales is a mountainous country. England is generally level or undulating.

There are **three general slopes**,—an eastern, a southern, and a western. The eastern is the longest. On the east, near the Wash, are extensive tracts, called the *Fens*, below the level of the sea at high water. They are protected by dikes.

93. The **mountains** may be classed as, the *Northern Group*, the *Southern Group*, and the *Mountains of Wales*; all on the west side.

The **Northern Group** embraces the *Cheviot Hills*, between England and Scotland; the *Pennine Mountains*, extending from the south-west extremity of the Cheviot Hills to the Peak of Derby; and the *Cumbrian Mountains*, lying west of the Pennine.

The **Southern Group** includes several low ranges, as the *Malvern*, *Cotswold*, and *Mendip Hills*, along the lower course of the Severn; the *Devonian Hills*, and *Cornish Heights*; the *Chiltern Hills*, north of the Thames, and the *North* and *South Downs*, south of the Thames.

The **Cambrian Mountains** cover a large part of Wales, and take their name from the ancient name of the country.

The highest peak of the Cheviot Hills has an elevation of 2688 feet; *Bow Fell* and *Cross Fell*, in the Pennine Mountains, 2000 feet; *Scaw Fell*, in the Cumbrian, 3229 feet; and *Snowdon*, in the north-west of Wales, 3500 feet.

The Cheviot Hills are noted as excellent pasture lands for sheep.

VII. **Rivers**.—94. England is well watered. Generally, the largest rivers are on the long eastern slope. The basins of the southern slope are very short.

The principal rivers on the east are, the *Tyne*, *Tees*, *Humber* (with its tributaries, the *Ouse* and *Trent*), the *Welland*, *Nen*, *Great Ouse*, *Yare*, *Stour*, and *Thames*; on the south, the *Avon*; on the west, the *Severn* (*Wye*, *Upper Avon*, *Lower Avon*), *Uk*, *Dee*, *Mersey*, *Ribble*, and *Eden*.

The Humber, Thames, Great Ouse, and Severn, form the chief river basins. The Severn and Thames are each about 220 miles in length.

VIII. **Lakes**.—95. The lakes are not numerous or of large size. *Derwentwater* or *Keswick Lake*, *Windermere*, and *Ulleswater*, situated in what is known as the "Lake District" among the Cumbrian Mountains, are the most im-

portant. They are very beautiful, and are a favorite resort of tourists, artists, and poets.

Windermere, 10 miles in length and 1 mile in breadth, is the largest lake in England. The poet Wordsworth, and other famous authors, once lived near this lake.

IX. Soil.—96. The soil is generally fertile, and most carefully cultivated. The east and south-east are best suited to tillage. A large portion of the soil is devoted to grazing.

X. Climate.—97. England is remarkably free from extremes of heat and cold. The winters are short, with but little snow. Cattle are sent to pasture early in March. The summers are not sufficiently warm to ripen Indian corn. The climate is very humid, particularly on the west coast.

Moist, genial, south-west winds prevail, except in April and May, when dry and disagreeable winds set in from the north-east. The annual depth of rain on some parts of the west coast is over 100 inches, while on the east it is about 25 inches.

XI. Minerals.—98. England and Wales contain immense mineral wealth. The most important minerals are coal, iron, copper, tin, lead, zinc, and salt. They are obtained chiefly in the north and west.

The most important coal-fields are in Northumberland, Durham, York, Stafford, and South Wales. About 130 million tons are raised annually in England and Scotland.

Copper and tin are most abundant in Devon and Cornwall; lead in the northern counties, in Derby, North Wales, and Devon. The quantity of copper obtained is very much less than in former years. Salt is abundant in the salt-mines and saline springs of Cheshire.

XII. Plants.—99. The native trees include the oak, elm, beech, and yew. Large tracts are kept in forest by the wealthy as hunting-grounds.

The humidity of the climate is particularly favorable to the grasses. Wheat, barley, oats, potatoes, turnips, and flax, are important products. The fruits are apples, pears, plums, peaches, and walnuts. The south-western counties are celebrated for fine orchards. Hops are extensively cultivated in the south-east, especially in the county of Kent.

XIII. Animals.—100. The most important wild animals are the deer, rabbit, and fox. Among the birds are the nightingale and lark. Among the fish that frequent the adjacent waters are the cod, herring, and pilchard.

Cattle and sheep form a large part of the wealth of the country. Great care is taken to improve the breeds.

XIV. Inhabitants.—101. The population of England is 27,482,104; of Wales, 1,518,914; making a total of 29,001,018.

102. The people of England are chiefly descendants of the Anglo-Saxons and Normans; those of Wales, of the ancient Britons. They are generally well educated, except the lowest classes, who, particularly in large cities, are very ignorant and degraded.

The most celebrated institutions of learning are the ancient Universities of Oxford and Cambridge, and the Universities of London and Durham.

Oxford University, consisting of twenty-one colleges, is renowned for classical learning. **Cambridge University**, consisting of eighteen colleges, is specially noted for mathematics and natural philosophy.

103. The Church of England is the established religion of the country, and its ministers are paid by the State. The Sovereign and the Lord Chancellor must be Protestants. In other respects, the adherents of all religions have the same privileges.

XV. Divisions.—104. England is divided into forty *Counties*; Wales into twelve.

Most of the counties are subdivided into *Hundreds*,—a name which is supposed to refer to a hundred heads of families, originally included in the division. York is divided into three *Ridings* (*Trithings*).

Ecclesiastically, the country is divided into two Archbishopsrics,—Canterbury, containing twenty Bishopsrics; and York, containing six Bishopsrics.

105. The following are the counties, with their chief towns:—

SIX NORTHERN COUNTIES.

Counties.	Chief Towns.
NORTHUMBERLAND	Newcastle, 186,345; Tynemouth, 46,000; Morpeth, Berwick.
CUMBERLAND	Carlisle, 39,000; Whitehaven, 18,000.
WESTMORELAND	Appleby, Kendal.
DURHAM	Durham, 15,000; Sunderland, 130,921; South Shields, 78,431; Gateshead, 85,709; Stockton; Darlington; Hartlepool, 21,000.
YORK	York, 68,984; Hull, 199,991; Doncaster; Sheffield, 324,243; Leeds, 367,506; Bradford, 216,361; Wakefield; Huddersfield, 95,422; Halifax, 82,864; Scarborough; Whitby.
LANCASHIRE	Lancaster, 31,000; Preston, 107,573; Blackburn, 120,064; Burnley, 87,058; Wigan, 55,013; Liverpool, 517,951; Warrington, 52,742; Staley Bridge; Ashton-under-Lyne, 40,000; Manchester, 505,343; Salford, 198,136; Bury, 57,000; Oldham, 131,463; Bolton, 115,002; Rochdale.

FIVE EASTERN COUNTIES.

LINCOLN	Lincoln, 41,000; Boston, 15,000; Louth; Great Grimsby, 51,876.
NORFOLK	Norwich, 100,964; Yarmouth, 49,000; Lynn-Regis.
SUFFOLK	Ipewich, 57,260; Bury St. Edmunds, 16,000; Lowestoft.
ESSEX	Chelmsford; Colchester, 34,000.
KENT	Maidstone, 32,000; Chatham, 31,000; Rochester, 26,000; Gravesend, 24,000; Woolwich, 41,000; Greenwich, 165,000; Canterbury, 23,000; Dover, 33,000.

EIGHT SOUTHERN COUNTIES.

SUSSEX	Chichester, 8000; Hastings, 52,340; Brighton, 115,402; Lewes.
SURREY	Guildford, Richmond.

Counties.	Chief Towns
HAMPSHIRE	Winchester, 19,000; Southampton, 65,325; Portsmouth, 159,255; Newport.
WILTSHIRE	Salisbury, 14,000; Trowbridge.
DORSET	Dorchester; Poole; Weymouth, 13,000.
SOMERSET	Bath, 51,843; Bridgewater; Taunton, 13,000.
DEVON.....	Exeter, 37,590; Plymouth, 84,179; Devonport, 54,736; Torquay, 25,000; Barnstaple.
CORNWALL.....	Penzance; Falmouth; Truro, 11,000.

FOUR WESTERN COUNTIES.

MONMOUTH.....	Monmouth; Newport, 54,695.
HEREFORD.....	Hereford, 20,000.
SHROPSHIRE, OR SALOP.....	Shrewsbury, 27,000; Much-Wenlock.
CHESHIRE.....	Chester, 37,000; Birkenhead, 90,184; Stockport, 70,253; Macclesfield, 36,000.

SEVENTEEN MIDLAND COUNTIES.

DERBY.....	Derby, 94,146; Belper, Chesterfield.
NOTTINGHAM.....	Nottingham, 211,984; Newark.
STAFFORD.....	Stafford; Newcastle-under-Lyne; Stoke, 24,000; Walsall, 71,791; Lichfield; Wolverhampton, 82,620.
LEICESTER.....	Leicester, 142,051; Loughborough.
RUTLAND.....	Oakham.
WORCESTER.....	Worcester, 43,000; Kidderminster, 25,000; Dudley, 45,000.
WARWICK.....	Warwick; Leamington, 27,000; Coventry, 52,720; Birmingham, 429,171.
NORTHAMPTON.....	Northampton, 61,016; Peterborough, 25,000.
HUNTINGDON.....	Huntingdon, St. Ives.
CAMBRIDGE.....	Cambridge, 37,000; Ely.
GLOUCESTER.....	Gloucester, 39,000; Bristol, 221,665; Stroud, 10,000; Cheltenham, 43,000.
OXFORD.....	Oxford, 45,000; Woodstock.
BUCKINGHAM.....	Buckingham, Aylesbury, Eton.
BEDFORD.....	Bedford, 28,000; Luton, 30,000.
HERTFORD, OR HERTS.....	Hertford, St. Albans.
MIDDLESEX.....	London, 4,231,431; Brentford.
BERKSHIRE.....	Reading, 60,054; Windsor.

TWELVE COUNTIES IN WALES.

FLINT.....	Mold, Holywell.
DENBIGH.....	Denbigh, Wrexham.
CAERNARVON.....	Caernarvon, 10,000; Bangor, 10,000.
ANGLESEY.....	Beaumaris, Holyhead.
MERIONETH.....	Dolgelly.
MONTGOMERY.....	Montgomery; Welshpool, 6,000.
CARDIGAN.....	Cardigan.
PENBROKE.....	Penbroke, 15,000; Haverfordwest.
CAERMARTHEN.....	Caermarthen, 10,000; Llanelly, 24,000.
GLAMORGAN.....	Cardiff, 128,849; Swansea, 90,423; Merthyr-Tydvil, 58,080.
BRECKNOCK.....	Brecknock.
RADNOR.....	New Radnor.

XVI. Towns.—106. The cities and towns of England are very numerous, and many of them are very large. There are twenty-four which have over 100,000 inhabitants.

107. **LONDON**, the capital of the British Empire, occupies both banks of the Thames, 40 miles from its mouth. It is the wealthiest and most commercial city in the world. In-

cluding *Blackwall, Chelsea, Kensington, Greenwich, Woolwich*, and other suburbs, it occupies an area of over 100 square miles, and contains one-seventh the population of England. *Greenwich* contains the Royal Observatory from which longitude is reckoned.

Among the magnificent public buildings of London are *St. Paul's Cathedral*, 514 feet in length, and 286 feet wide; *Westminster Abbey*, in which the sovereigns of England have been crowned for over 800 years; the *House of Parliament, Westminster Hall, and Buckingham Palace*. The Zoological Gardens in Regent's Park, the Botanical Gardens at Kew, and the Crystal Palace, are among the interesting objects in the neighborhood of London. The Thames River is from 900 to 1200 feet broad at London. A tunnel passes under the river, and several bridges extend across it. An *underground railway* extends several miles under the streets of London.

108. **Liverpool**, near the mouth of the Mersey, is the second city in population, and, in connection with *Birkenhead*, on the opposite side of the river, it rivals London in its trade. Its commercial importance is due mainly to the fact that its position makes it the chief port of traffic between America and the manufacturing towns of the west of England.

109. **Manchester and Salford**, separated by the Irwell, forming one great city, are the centre of the cotton manufactures. The first railway in England was opened in 1825 between Manchester and Liverpool, 31 miles distant. *Preston, Blackburn, Bolton*, and various other towns in Lancashire, are also engaged in the manufacture of cotton goods.

Leeds, Bradford, Huddersfield, Halifax, and Wakefield in York, and *Stroud* in Gloucester, are chief seats of woollen manufactures. **Birmingham** exceeds all other places in the world in the manufacture of hardware, including fire-arms and all kinds of metallic goods.

Sheffield is specially noted for its cutlery; **Macclesfield** for the manufacture of silks.

110. **Stoke-upon-Trent** is the centre of a district called "The Potteries," embracing several towns and villages noted for the manufacture of porcelain and pottery of all kinds. **Wolverhampton** is in the midst of collieries and foundries.

111. **Newcastle-on-Tyne and Sunderland**, at the mouth of the Wear, are noted coal-shipping ports.

Berwick-on-Tweed and **Carlisle** are border towns, memorable in connection with the wars between England and Scotland.

Kewwick, near Derwentwater, is noted for lead-pencils.

112. **Hull** is a great sea-port through which the manufactures of the northern counties are largely exported. It has a large trade with the ports of the Baltic and North Sea.

Derby is noted for the manufacture of silks, hosiery, and lace; **Nottingham** for lace and cotton and silk hosiery. **Leicester** is in the centre of an agricultural and sheep-farming district, and has important manufactures.

113. **York** is an ancient city, and is the seat of one of the archbishops of England. **York Minster**, built in the Middle Ages, is the finest Gothic cathedral in the kingdom. **Lincoln** also has a fine cathedral.

114. **Ipswich** is an important port, and manufactures soap, farming tools, and iron.

Warwick manufactures bandanas, shawls, and crapes. **Northampton** is noted for the manufacture of shoes. **Luton, Dunstable, and St. Albans** are noted for their straw hats and bonnets.

Yarmouth is celebrated for its herring fisheries. **Yarmouth Roads** is a sheltered channel between the shore and extensive sand-banks parallel with the coast.



YORK MINSTER.

115. **Southampton** is the chief steam-packet station for the ports of the Mediterranean, the East and the West Indies, and South Africa.

116. **Winchester**, the ancient capital of England, has a fine cathedral which contains many objects of interest.

Brighton and **Hastings** are celebrated watering-places.

117. **Portsmouth** is a strongly fortified town, and the headquarters of the British navy. Its harbor is magnificent, and its docks are very extensive. **Portsea** is a neighboring city.

Plymouth and **Devonport** are so closely connected as to form one great city. They have an extensive commerce, and form an important naval station.

Sheerness, on Sheppey Island, **Chatham**, and **Woolwich** are noted for their dockyards and arsenals.

118. **Bristol** is a great commercial city, having a large trade with Canada, the United States, West Indies, and South Europe. It also carries on a great variety of manufactures.

Gloucester is noted for the manufacture of pins; **Worcester** for gloves and porcelain; **Kidderminster** for carpets; **Coventry** for ribbons and watches.

Bath, **Cheltenham**, and **Leamington** are celebrated for their mineral springs.

119. **Canterbury**, the seat of the "Primate of All England," is sometimes called the ecclesiastical capital of England. It has a noted cathedral.

Oxford and **Cambridge** are the seats of the two great universities, each comprising many colleges. **Eton**, **Bedford**, **Rugby**, and **Westminster** are noted for their great classical schools or academies for boys.

120. **Merthyr-Tydvil**, one of the largest towns in Wales, is of rapid growth, owing its prosperity to its coal-mines and iron-works. **Swansea** is the chief place for copper-smelting. Besides the native ore, large quantities are brought from Australia and Chili.

Caernarvon, a seaport town, is noted for its castle, in which Edward II. was born. **Holywell** is an important mining and manufacturing town. It takes its name from the fountain of St. Winifred. **Cardiff** is an important port.

XVII. Industries.—121. The chief branches of industry are agriculture, mining, manufacturing, and commerce. The greatness of England depends on its mineral wealth, the productiveness of its soil, its advantageous position for commerce, and the energy of its inhabitants. England exceeds every other country in the world in the variety and value of its manufactures, including cotton, woollen, silk, leather, and all kinds of metallic goods and earthenware.

122. A line drawn from Flamborough Head to Portland Point would have on the north-west the mining and manufacturing districts of England, and on the south-east a territory devoted chiefly to agriculture and commerce.

123. **Coal** may be regarded as the most important mineral; for without it steam-power could not be obtained, and hence the mines could not be worked, or manufacturing carried on successfully. The commerce arises largely out of the manufactures.

124. The chief **exports** are manufactured goods of all kinds, coal, iron, and other metals. Cotton goods form the largest item in the value of exports; iron and steel, including raw material and manufactures, rank second; woollen goods, third.

Total value of exports from the United Kingdom, \$1,260,000,000.

125. The chief **imports** are cotton, wool, silk, and other raw material for manufactures, flour, grain, cattle, brandy, wine, sugar, and various tropical products.

Total value of imports into the United Kingdom, \$2,076,245,000.

126. England imports grain, flour, cattle, and timber from Canada; cotton from the United States and India; wool from Australia and Cape Colony.

SCOTLAND.

I. History.—127. Scotland, or North Britain, was anciently called *Caledonia*, and sometimes *Albyn*.

Towards the end of the Roman power in Britain, Scotland was inhabited by two Celtic tribes called the *Picts* and *Scots*. The latter are said to have crossed over from the north of Ireland. In 843, the Picts and Scots were united into one nation under Kenneth MacAlpin; and in the eleventh century the country was called *Scotland*.

123. For many centuries Scotland and England were almost constantly at war, and the inhabitants of the border territories lived in the greatest insecurity.

In 1503, James VI. of Scotland, being the nearest male heir of the Tudors, became King of England. The two countries, however, continued as distinct kingdoms until 1707, when, by mutual agreement, they were united into one State, under the name of Great Britain, with a common Parliament.

II. Position.—129. Scotland is between the same parallels as the north of Labrador.

N. lat. 54° 38'—58° 40'; W. lon. 1° 45'—6° 13'.



EDINBURGH.

III. **Form.**—130. The outline is very irregular. Deep indentations of the sea divide the country into three peninsular portions. There are also several small peninsulas on the west side. Cantire approaches within 13 miles of the coast of Ireland.

IV. **Coast.**—131. Owing to the rocky and elevated character of the shores, many of the coast waters are of little commercial importance.

The chief **waters** are:—on the north, *Pentland Firth*; on the east, *Dornoch Firth*, *Cromarty Firth*, *Moray Firth*, *Firth of Tay*, and *Firth of Forth*; on the south, *Solway Firth*, *Wigtown Bay*, and *Luce Bay*; on the west, *Firth of Clyde*, *Loch Long*, *Loch Fyne*, the *Sounds of Kilbrannan*, *Islay*, *Jura*, and *Mull*, *Loch Etive*, *Loch Linnhe*, *Sound of Sleat*, *Loch Torridon*, *Loch Broom*, the *Minch*, and the *Little Minch*.

132. The **Firths of Forth and Clyde** are of the greatest service to commerce. They are connected by a canal 38 miles in length. **Moray Firth** and **Loch Linnhe** are connected by the Caledonian Canal. **Solway Firth** is very shallow, and a large portion of it is left uncovered at ebb-tide.

133. The chief **capes** are:—on the north, *Cape Wrath*, *Dunnet Head*, and *Duncansby Head*; on the east, *Tarbet-Ness*, *Kinnaird Head*, *Buchan-Ness*, *Fife-Ness*, and *St. Abb's Head*; on the south, *Souther-Ness*, *Burrow Head*, and the *Mull of Galloway*; on the west, *Mull of Cantire*, *Ardnamurchan Point*, and the *Butt of Lewis*.

134. The principal **islands** are, the *Orkney* and *Shetland* Islands on the north, and the *Hebrides* on the west.

135. The **Orkneys** and **Shetlands** were ceded to Scotland by Denmark in 1468.

The **Orkneys**, separated from Scotland by Pentland Firth, from 5 to 8 miles broad, consist of about 60 islands, 28 of which are inhabited. *Pomona* or *Mainland*, and *Hoy*, are the largest. The islands are destitute of trees. Oats and vegetables are raised, cattle and sheep are reared, and the fisheries are important. *Kirkwall* and *Stromness*, on *Pomona*, are the chief places. "The Old Man of Hoy" is a high rock on the Island of Hoy. Total area, 610 square miles.

The **Shetlands**, 50 miles north of the Orkneys, number over 100 islands, of which 23 are inhabited, and others afford pasturage. *Mainland*, *Yell*, and *Unst* are the largest.

Fishing, agriculture, and the domestic manufacture of woollens are the chief pursuits. Many sheep and ponies are reared. The islands are destitute of trees. *Lerwick*, on *Mainland*, is the only town.

136. The **Hebrides** were once subject to Denmark, and afterwards to chieftains called "Lords of the Isles." They are about 500 in number, of which over 100 are inhabited. The coast line is exceedingly irregular. Some of the islands have high mountains and are noted for their picturesque scenery. The climate is very mild and humid.

137. The Hebrides are divided by the Little Minch into the *Inner Hebrides* and *Outer Hebrides*.

The inner group lies close to the west coast of Scotland. The principal are *Skye*, 46 miles long, *Mull*, *Jura*, *Islay*, *Arran*, and *Bute*. *Staffa*, a small island west of Mull, is remarkable for its basaltic columns and for Fingal's Cave. *Iona* contains the ruins of a monastery, a seat of learning and religion in the dark ages. *Islay*

is famous for the Caves of Frances, in which all the inhabitants of the island were smoked to death by a hostile clan. (See *Scott's Tales of a Grandfather*.)



FINGAL'S CAVE.

The outer group comprises *Lewis, North Uist, Benbecula, South Uist, Barra*, and numerous smaller islands. They are separated by narrow passages, and extend in a line of about 120 miles in length. Total population of the Hebrides, 100,000.

V. Area.—138. Scotland is somewhat larger than the province of New Brunswick.

The area is 30,462 square miles—equal to a square of 174 miles.

VI. Surface.—139. Scotland is a mountainous country. It is usually divided into two regions,—the *Highlands*, in the north and west; and the *Lowlands*, in the south and east. A plain called *Strathmore*, or “the great valley,” extending across the country north-easterly from the estuary of the Clyde, forms the northern limit of the Lowlands.

The **general slope** of the country is easterly. The basin of the Clyde has a westerly slope; and a small section in the south has a southerly slope, toward Solway Firth.

140. The **mountain ranges** generally extend across the country south-west and north-east. The Highlands are rugged and wild, and are often penetrated by deep glens. They are divided into two sections, separated by *Glennmore*, or “the great glen,” which stretches across the country from Loch Linnhe to Moray Firth.

141. North of Glennmore are the *Northern Highlands*, which form a rugged plateau; on the south are the *Grampians*, the highest mountains in the British Islands.

In the south of Scotland are the *Cheviot, Lowther, Lammermoor, and Pentland Hills*.

Ben Nevis, in the Grampians, the highest peak in the British Isles, has an elevation of 4406 feet; **Ben Macdui**, 4298; **Cairn Gorm**, 4090; **Ben Lomond**, 3192; **Ben Attow**, in the Northern Highlands, 4000; and **Ben Wyvis**, 3422. The snow-line has an elevation of about 5000 feet.

VII. Rivers.—142. With the exception of the Clyde, which flows westerly, the principal rivers are on the eastern slope. The largest rivers are, the *Tweed, Forth, Tay, Dee, Don, Spey*, and *Clyde*.

The **Tay**, 130 miles in length, is the longest stream, and is noted for the rapidity of its current. It is navigable for small vessels to Perth. The **Clyde**, noted for its beautiful scenery and for the ship-building along its banks, is over 100 miles in length. Commercially, this is the most important river of Scotland.

VIII. Lakes.—143. Small lakes, called *lochs*, are very numerous, particularly in the Highland region. They are generally in mountain glens, bordered by high cliffs, which invest them with beauty and grandeur. The principal are, *Lomond, Katrine, Earn, Leven, Awe, Tay, Rannoch, Ericht, Ness, Lochy, Marce*, and *Skin*.

Loch Lomond, 24 miles long, with an area of about 40 square miles, is the largest lake in Britain. On the north of the lake are wild mountain masses.

IX. Soil.—144. Only about one-fourth of Scotland is suitable for cultivation. The Lowlands in the south-east are fertile, and agriculture is in a very advanced condition. The Highlands afford fine pasturage.

X. Climate.—145. The climate in the south-east is similar to that of England; the Highland region is colder and more humid.

XI. Minerals.—146. The chief minerals are coal, iron, lead, slate, and granite.

The coal-fields occupy nearly the whole breadth of the country between Fife-Ness and the Firth of Clyde. Iron is abundant in the same region. Lead is obtained from the Lowther Hills.

XII. Plants.—147. Some portions of the Highlands are clothed with natural forests of pine, birch, oak, and ash. During the present century extensive forests of larches and other trees have been planted on the southern slopes of the Grampians.

The rocky peaks of the Grampians and of the Northern Highlands are destitute of green herbage, and large tracts on the less elevated parts are covered with heather.

Wheat, barley, and oats are cultivated in the Lowlands, and agriculture is prosecuted with great skill and success.

The Highland districts are not suited to agriculture, but they are well adapted to grazing, and sustain large numbers of cattle and sheep.

XIII. Animals.—148. The deer of the Highland forests are the most important wild animals. Sheep and cattle are extensively reared.

XIV. Inhabitants.—149. The population is 4,033,103.

In the Highlands, the people are mostly of the Celtic race, and speak Gaelic; in the Lowlands, they are of Saxon and Scandinavian origin. The Church of Scotland (Presbyterian) is established by law, and Presbyterianism is the prevailing religion. In the Outer Hebrides most of the inhabitants are Roman Catholics.

The Scotch are industrious, brave, and intelligent. Many emigrate to the British colonies and the United States, where they usually acquire a large share of prosperity.

Scotland has four universities—*Edinburgh, Glasgow, Aberdeen, and St. Andrews.*

XV.—Divisions.—150. Scotland is divided into thirty-two *Counties*, which are subdivided into *Parishes*.

Cromarty consists of small detached portions, chiefly in the northern part of Ross, which were estates belonging to an Earl of Cromarty. Ross and Cromarty now form one county.

FOURTEEN SOUTHERN COUNTIES.

Counties.	Chief Towns.
LINLITHGOW, or WEST } LOTHIAN.....	Linlithgow.
EDINBURGH, or MID- } LOTHIAN.....	Edinburgh, 261,261; Leith, 69,696; Musselburgh, Dalkeith.
HADDINGTON, or EAST } LOTHIAN.....	Haddington, Dunbar, Prestonpans.
BERWICK	Greenlaw, Duns, Coldstream.
ROXBURGH	Jedburgh; Hawick, 19,000; Kelso.
SELKIRK	Selkirk; Galashiels, 17,000.
PEEBLES	Peebles.
LANARK	Lanark; Glasgow, 565,714; Rutherglen; Airdrie, 19,000; Hamilton.
DUMFRIES	Dumfries, 16,000; Annan.
KIRKCOUBRIGHT	Kirkcubright, Castle-Douglas.
WIGTOWN	Wigtown, Stranraer.
AYR	Ayr, 24,000; Irvine; Kilmarnock, 28,000; Gifford.
RENFREW	Renfrew; Port-Glasgow; Greenock, 63,498; Paisley, 66,420; Pollokshaws.
BUTE	Rothsay, 9,000.

NINE MIDDLE COUNTIES.

FIFE	Cupar; St. Andrews; Kirkcaldy; Dunfermline, 22,000.
KINROSS	Kinross.
CLACKMANNAN	Clackmannan; Alloa, 10,000.
STIRLING	Stirling, 16,000; Falkirk, 17,000; Bannockburn, Kilsyth, Carron.
DUMBARTON	Dumbarton, 17,000; Kirkintilloch.
AUGYLE	Inveraray, Campbeltown, Dunoon.
PERTH	Perth, 29,902; Crieff, Dunkeld, Dunblane, Blairgowrie.
FORFAR	Forfar, 12,000; Dundee, 155,640; Arbroath, 23,000; Montrose, 13,000; Brechin.
KINCARDINE	Stonehaven.

NINE NORTHERN COUNTIES.

ABERDEEN	Aberdeen, 121,005; Peterhead, 12,000.
BANFF	Banff, 4,000; Keith.
MORAY, or ELOIN	Elgin, 8,000; Forres.
NAIRN	Nairn.

Counties.	Chief Towns.
INVERNESS	Inverness, 19,000.
ROSS and	Dingwall, Tain, Stornoway (Lewis Island).
CROMARTY	Cromarty.
SUTHERLAND	Dornoch.
CAITHNESS	Wick, 5,000; Thurso.
ORKNEY and SHETLAND.	Kirkwall; Lerwick, 3,000.

XVI. Towns.—151. **Edinburgh**, the capital of Scotland, near the Firth of Forth, is an old city, and one of the most beautiful in Europe. It is built on two ridges running east and west, separated by a deep hollow. The Old Town occupies the southern ridge; the New Town, the northern.

Edinburgh is the seat of a distinguished university, and has several first-class publishing houses. It is the place where the representative peers for Scotland are elected, and where the general ecclesiastical assemblies are held. The most noted buildings are the Castle, on a precipitous rock 437 feet high; and Holyrood House, the palace of the Scottish Sovereigns.

The trade of Edinburgh is carried on through Leith, 2 miles distant.

152. **Glasgow**, on the Clyde, in the midst of a district abounding in coal and iron, is admirably situated for manufactures and commerce, in which it ranks next to Manchester and Liverpool. Its manufactures include cottons, engines, and machinery of all kinds. It has the largest chemical works in the world. It has a fine Gothic cathedral and a university.

153. **Greenock**, on the Firth of Clyde, is the principal port in the west. It is extensively engaged in ship-building, sugar-refining, and trade with America. **Port-Glasgow** also has considerable foreign trade.

154. **Paisley** is an old town, celebrated for its extensive manufactures in linen thread, shawls, and fancy goods. It has an interesting abbey, founded in 1163.

155. **Hawick, Selkirk, and Galashiels** have important manufactures, including tweeds, blankets, and other woollen goods. **Haddington** has a large grain-market. **Dunbar** and **Prestonpans** are noted for battles.

156. **Melrose** contains the ruins of an ancient abbey; and 3 miles distant is **Abbotsford**, once the residence of Sir Walter Scott.

Dumfries, the burial-place of the poet Burns, has a large cattle-market. **Ayr** is an important sea-port. **Kilmarnock** is noted for carpets. **Rothsay**, on the island of Bute, is a favorite watering-place.

157. **Dundee**, an important port on the estuary of the Tay, is the third in size among the cities of Scotland. It ranks first among the cities of Great Britain in the manufacture of coarse linen and jute fabrics, and is also noted for the manufacture of confectionery. The whale and seal fisheries are important interests.

158. **Perth**, once the capital of Scotland, is beautifully situated on the Tay, with the lofty heights of the Grampians in the background. The famous stone on which the kings sat during coronation is now in Westminster Abbey. **Arbroath** and **Montrose** are important manufacturing and commercial towns.

159. **St. Andrews** is the seat of the oldest university in Scotland. **Dunfermline** is noted for linen manufactures. **Alloa** has extensive breweries. **Stirling** is noted for its castle. Two miles south is **Bannockburn**, where a great battle was fought. **Falkirk** has extensive iron-works and great cattle fairs. **Dumbarton** has an ancient castle.

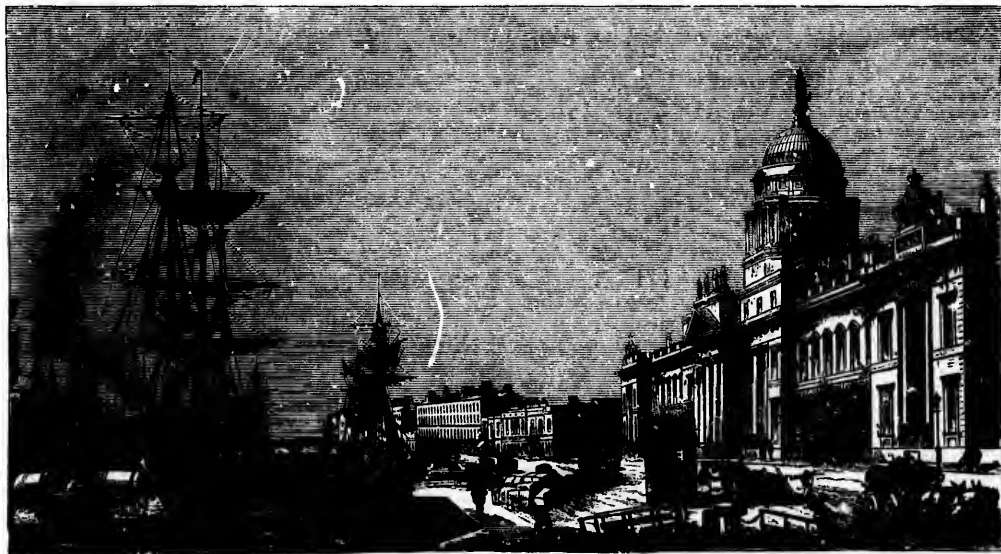
160. **Aberdeen**, a handsome granite town at the mouth of the Dee, carries on extensive ship-building, manufacturing, and com-

merce. In the interior is *Balmoral*, the Queen's Highland residence. *Peterhead* is largely engaged in the whale and herring fisheries, and exports vast quantities of granite. *Elgin* has ruins of an ancient Gothic cathedral. *Inverness*, sometimes called the capital of the Northern Highlands, is an old town at the entrance of the Caledonian Canal. In its neighborhood is *Culloden Moor*, where the Pretender was defeated in 1746. *Wick* is extensively engaged in the herring fishery.

XVII. Industries.—161. Pastoral husbandry, agricul-

ture, mining, manufacturing, ship-building, commerce, and fishing are the chief pursuits.

Immense numbers of cattle and sheep are sent to the English markets. The manufactures embrace cottons, woollens, linens, engines, machinery, and hardware. Ship-building is an important business on the banks of the Clyde and other places. The exports and imports are similar to those of England. The fisheries are of great importance, especially the salmon fisheries of the rivers, and the herring fisheries on the northern coasts.



DUBLIN.

IRELAND.

I. **History.**—162. The Celtic name for this island was *Erin*, from which the names *Ierne* and *Ireland* have probably been derived. The Romans called it *Hibernia*.

The island also, for a time, bore the name of *Scotia* or *Scotland*, which was afterwards transferred to the northern part of Britain.

Christianity was introduced in the fifth century, and for a long period during the dark ages Ireland was distinguished for its literature.

163. In the twelfth century Ireland was the seat of several petty kingdoms, whose discords resulted in the loss of independence to the island. It was annexed to England by Henry II. in 1172. The Irish parliament was abolished in 1801, and England, Scotland, and Ireland, with a common parliament, were designated *The United Kingdom of Great Britain and Ireland*.

Irish barons at various times resisted the authority of the English. In consequence of rebellion, large estates in the Province of Ulster were confiscated, in the reign of James I., and bestowed on English and Scottish colonists.

II. **Position.**—164. Ireland is separated from Wales by St. George's Channel; from England, by the Irish Sea; and from Scotland by the North Channel. Ireland is a little north of east from Newfoundland, with which it is connected by submarine telegraph.

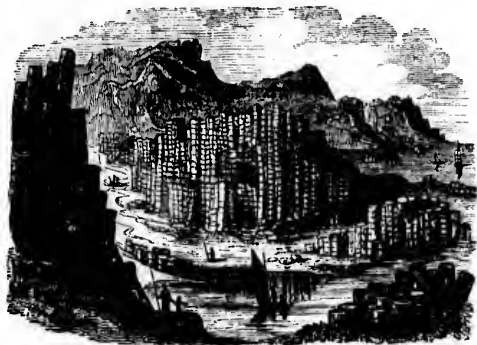
N. lat. $51^{\circ} 27' - 53^{\circ} 23'$; W. long. $5^{\circ} 26' - 10^{\circ} 28'$.

III. **Form.**—165. Ireland is elliptical in its general form.

IV. **Coast.**—166. The eastern coast is generally low, and navigation is obstructed by sand-banks; the other sides, deeply indented with bays and fine harbors, are rocky and bold.

The total length of coast-line is about 2200 miles.

167. The Giant's Causeway, on the north, is the most remarkable feature of the coast. It consists of many thousands of closely connected basaltic columns, or natural pillars of volcanic rock, rising out of the sea, resembling, at a distance, human architecture. It forms a platform or pier 700 feet in length, 350 in breadth, and 30 in extreme height, extending from the base of a cliff 400 feet high. According to Irish legend, this natural wonder was the work of giants who wished to make a road to Scotland.



GIANT'S CAUSEWAY.

168. The principal coast waters are:—

On the north—*Lough Swilly* and *Foyle*.

On the east—*Belfast Lough*, *Strangford Lough*, *Dundrum Bay*, *Carlingford Lough*, *Dundalk Bay*, *Dublin Bay*, and *Wexford Harbor*.

On the south—*Waterford*, *Dungarvan*, *Youghall*, *Cork*, and *Kinsale Harbors*.

On the west—*Dunmanus*, *Dantry*, *Kenmare*, *Dingle*, and *Tralee Bays*; *Mouth of the Shannon*; *Galway*, *Clew*, and *Blacksod Bays*; *Broad Haven*; *Killala*, *Sligo*, and *Donegal Bays*.

169. The chief capes are:—

On the north—*Bloody Foreland*, *Malin Head*, and *Fair Head*.

On the east—*Houth Head* and *Wicklow Head*.

On the south—*Carnmore Point*, *Cape Clear*, and *Mizen Head*.

On the west—*Crow*, *Dunmore*, *Kerry*, *Loop*, *Slyne*, *Achil*, and *Erris Head*, and *Rossan Point*.

170. The islands are, *North Arran*, *Tory*, and *Rathlin*, on the north; *Cape Clear Island*, on the south; *Valentia*, *Blasket*, *South Isles of Arran*, *Clare*, and *Achil*, on the west.

V. Area.—171. Ireland is nearly one-fifth larger than the Province of New Brunswick.

The area is 32,531 square miles, or it equals a square of 180 miles. The length, from Fair Head to Mizen Head, is over 300 miles; the greatest breadth is about 180 miles.

VI. Surface.—172. The surface is generally low, consisting of an extensive central plain, bordered by isolated mountain masses near the coasts. There are two principal

slopes, the northern and the southern. The latter embraces over two-thirds the whole area.

173. In the north are the *Donegal Mountains*, *Carntogher*, and *Mountains of Antrim*; in the east, the *Mourne* and *Wicklow Mountains*; in the south, the *Knockmeledown Mountains*. In the south-west are *Magillicuddy Reeks* and several other parallel ranges, between which the ocean penetrates in deep bays. In the west are the *Nephin Beg*, *Croagh Patrick*, *Muilrea*, *Twelve Pins*, and *Connemara*.

The mountains of Ireland vary in height from 1500 to 3000 feet. The highest summit is *Carn-tual*, 3404 feet, in *Magillicuddy Reeks*.

174. A large tract across the middle of Ireland, estimated at one-tenth the whole area, consists of bogs. The *Bog of Allen* is the most extensive. Many of the bogs are covered from 20 to 25 feet, or even to greater depths, with peat formed of decayed and compressed mosses and other vegetable matter. Peat, when cut and dried in the heat of summer, is extensively used as fuel. Trunks of oak, yew, pine, and other trees, in good preservation, are found imbedded among the peat.

VII. Rivers.—175. Many of the rivers, flowing over a level country, are navigable throughout a large part of their course. They often expand into lakes.

The principal rivers on the northern slope are, the *Erne*, *Foyle*, *Bann*, and *Lagan*; on the southern slope, the *Shannon*, *Bandon*, *Lee*, *Blackwater*, *Suir*, *Barrow (Nore)*, and *Slaney*. On the east are, the *Lifey* and the *Boyne*.

The *Shannon*, 220 miles long, is much the largest river. It is navigable to Lough Allen, about 214 miles. It is also connected by canals with Dublin Bay.

VIII. Lakes.—176. Lakes, called *loughs*, are numerous. The principal are, *Erne* and *Neagh*, in the north; *Allen*, *Ree*, and *Derg*, expansions of the *Shannon*; and the *Lakes of Killarney*, in the south-west. The lake coasts are generally low, excepting those of *Killarney*.

Lough Neagh, with an area of 150 square miles, is the largest lake in the British Isles. Its waters contain mineral substances which give them petrifying qualities.

The *Lakes of Killarney*, three in number,—upper, middle, and lower,—in the neighborhood of the lofty height of *Carn-tual*, are celebrated for their picturesque beauty.

IX. Soil.—177. The soil is generally fertile, but not so skillfully cultivated as in England and Scotland. A large part of the country is owned by landlords who reside in England.

X. Climate.—178. The climate is healthful, remarkably temperate, and humid. The prevalent winds are westerly.

XI. Minerals.—179. Ireland is not so rich in minerals as Britain. Coal occurs, but is not plentiful. Iron, which is more abundant, is not much wrought. Copper and lead are obtained in the south. Limestone, granite, marble, and slate are plentiful.

XII. Plants.—180. There are no large forests. The

moist and mild climate specially adapts the country to the production of grasses; and the remarkable verdure of the pastures and meadows has obtained for Ireland the name of the *Emerald Isle*. Among the grains, oats flourish best, but wheat is extensively grown. Potatoes form a very important crop, and flax is largely cultivated, especially in the north.

181. Previous to 1845, potatoes were the main dependence and formed the chief food of the lower classes. The failure of the crop resulted in a terrible famine and pestilence, which swept off many of the inhabitants, and drove many others to foreign countries. Grain and other crops have since received more attention.

XIII. Animals.—182. Wild animals are small, and not numerous. The toad is not found in Ireland.

Among the domestic animals are immense numbers of cattle, sheep, and swine.

XIV. Inhabitants.—183. The population in 1891 was 4,706,162; in 1841 it was 8,175,124.

The native Irish belong to the Celtic family. Descendants of English and Scotch are numerous, forming the majority in the Province of Ulster.

184. The Irish are warm-hearted, witty, and excitable. Many of them are very poor and ignorant. National schools are sustained for the education of the middle and lower classes.

The higher institutions of learning are, the *Queen's Colleges* at Belfast, Cork, and Galway; *Trinity College* and the *Catholic University*, Dublin; and *St. Patrick's College*, Maynooth.

Previous to 1869 the Church of England was established by law. Roman Catholics form the great majority of the population. The Presbyterians prevail in Ulster.

XV. Divisions.—185. Ireland is divided into four Provinces:—*Ulster*, in the north; *Leinster*, in the east; *Connaught*, in the south; and *Connaught*, in the west.

The Provinces are sub-divided into thirty-two Counties:—

NINE COUNTIES IN ULSTER.

Counties.	Chief Towns.
DONEGAL	Lifford, Ballyshannon.
LONDONDERRY	Londonderry, 32,893; Coleraine.
ANTRIM	Belfast, 255,806; Lisburn, 9,000; Ballymena, Carrickfergus.
DOWN	Downpatrick; Newtown-Ards; Newry, 13,000.
ARMAUGH	Armagh, 8,000; Lurgan, 11,000; Portadown.
TYRONE	Omagh, Strabane, Dungannon.
FERMANAGH	Enniskillen.
MONAGHAN	Monaghan, Clones.
CAVAN	Cavan.

TWELVE COUNTIES IN LEINSTER.

LOUTH	Dundalk, 13,000; Drogheda, 11,000.
MEATH	Trim, Navan, Kells.
WEST MEATH	Mullingar, Athlone.
LONGFORD	Longford.
DUBLIN	Dublin, 264,709; Kingstown, 17,000; Howth.
WICKLOW	Wicklow, Arklow.
KILDARE	Athy, Naas, Maynooth.
KING'S	Tullamore, Parsonstown.

Counties.	Chief Towns.
QUEEN'S	Maryborough, Mountmelick.
KILKENNY	Kilkenny, 11,000.
CARLOW	Carlow.
WEXFORD	Wexford, 11,000; Enniscorthy, New Ross.

SIX COUNTIES IN MUNSTER.

WATERFORD	Waterford, 21,693; Portlaw, Dungarvan.
CORK	Cork, 75,070; Queenstown, 10,000; Skibbereen, Kinsale, Bandon, Youghall, Fermoy, Mallow.
KERRY	Tralee, 10,000; Killarney, Dingle.
LIMERICK	Limerick, 37,072; Rathkeale.
CLARE	Ennis, Kilrush.
TIPPERARY	Clonmel, 9,000; Carrick-on-Suir, Cashel, Thurles, Tipperary, Nenagh.

FIVE COUNTIES IN CONNAUGHT.

GALWAY	Galway, 13,700; Tuam, Ballinasloe.
MAYO	Castlebar, Ballina, Westport, Killala.
SLIGO	Sligo, 10,000.
LEITRIM	Carrick-on-Shannon.
ROSCOMMON	Roscommon.

XVI. Towns.—186. **Dublin**, the metropolis of Ireland and residence of the Lord-Lieutenant, is one of the finest cities in Europe. It occupies both sides of the Liffey near its mouth, and has an extensive commerce. There are many magnificent public buildings.

The environs of the city are famed for their beauty. Phoenix Park includes large and finely ornamented grounds. Dublin poplins are very celebrated.

Kingstown, 6 miles from Dublin, at the entrance of the bay, is the steam-packet station to Liverpool and Holyhead.

187. **Drogheda**, on the Boyne, manufactures linens and cottons. Two miles from the town the battle of the Boyne was fought in 1690.

188. **Belfast**, on Belfast Lough, is the first city in population, and also in manufactures, of which linen and cotton are the most important.

189. **Londonderry**, on the Foyle, has considerable trade, and is noted for its successful resistance to the besieging force of James II. in 1689.

Coleraine, 10 miles from the Giant's Causeway, is noted for its linen. **Armagh**, the seat of the Anglican Archbishop, is called the ecclesiastical capital of Ireland. From near the close of the fifth century to the ninth century Armagh was the metropolis of Ireland; and subsequently it was renowned for its school of theology and literature. **Lurgan** and **Portadown** have linen manufactures.

190. **Cork**, at the mouth of the Lee, has one of the best harbors in the world. Its ship-building, manufactures, and trade are important. Agricultural produce is largely exported to England.

Queenstown, on Great Island, in Cork Harbor, is a port of call of the mail steamers for America.

Waterford, on the Suir, 12 miles from the sea, carries on an immense trade with England, exporting live stock, and dairy and farm produce, chiefly to Bristol.

Killarney, near one of the lakes, is the resort of tourists. In the neighborhood of **Youghall**, Sir Walter Raleigh introduced the culture of potatoes into Ireland.

Limerick, on the Shannon, 60 miles from its mouth, is an ancient town, has a large trade, and is noted for the manufacture of lace.

191. **Galway**, the chief port in the west, is connected with

Dublin, over 100 miles distant, by rail. **Ballinacree** has the largest cattle and sheep fair in Ireland. **Ennis** is noted for its Gothic abbey. **Cashel** contains the ruins of an ancient cathedral.

XVII. Industries.—192. Agriculture, with dairy husbandry and the rearing of cattle, is the leading pursuit.

Manufacturing is confined chiefly to the north. Linen fabrics are the most important. **Muslin** and lace are extensively manufactured in the north-east. The principal export trade is with Britain, embracing grain, dairy produce, cattle, bacon, linen, and flax. The first ocean telegraph cable was laid from Valentia Bay in Ireland to Heart's Content in Newfoundland, in 1858.

THE UNITED KINGDOM OF GREAT BRITAIN AND IRELAND.

XVIII. Government.—193. England, Wales, Scotland, and Ireland form one kingdom, called the **United Kingdom of Great Britain and Ireland**, having the same Sovereign and Parliament. The Sovereign may be either a King or a Queen. The Government is a *limited hereditary monarchy*, or, as it is called, a "constitutional monarchy." The power of the Sovereign is limited, his coronation oath requiring him to govern according to the statutes of Parliament.

194. The **Parliament**, which alone has the power to make and repeal laws, is composed of the *Sovereign*, the *House of Lords*, and the *House of Commons*.

195. The **Sovereign** alone can legally convene, prorogue, or dissolve Parliament, and the royal assent is necessary before any Act passed by the Commons and Lords can become law.

196. The **House of Lords** includes, at present, about 554 members, consisting of the *Peers of the United Kingdom*, whose title and privileges are hereditary, 16 representative *Peers of Scotland*, 28 representative *Peers of Ireland*, 2 *English Archbishops*, and 24 *English Bishops*.

197. The Sovereign has power to create new Peers of the United Kingdom. The Scottish representative Peers are elected for each Parliament; the Irish Peers are elected for life.

198. The **House of Commons** is composed of 670 members, who are elected by the people—495 for England and Wales, 72 for Scotland, and 103 for Ireland. All Bills relating to taxes and the expenditure of the public money must originate with the House of Commons; other Bills may originate in either House.

199. The **Revenue** of Great Britain is about \$430,000,000, and the **National Debt** about \$3,345,600,000.

200. An insular position and an unrivalled *navy* render Great Britain invincible against invasion. The *land force* is much smaller than that of the "Great Powers" on the Continent.

201. The **regular army**, not including the forces in India, is about 152,000. The *militia* and *yeomanry cavalry* comprise over 127,000, and the volunteers about 226,000.

Great Britain ranks as the first naval power in the world. The fleet comprises about 370 war-ships, the majority propelled by steam, carrying about 65,000 men, boys, and marines.

The forces in India comprise about 73,000 men.

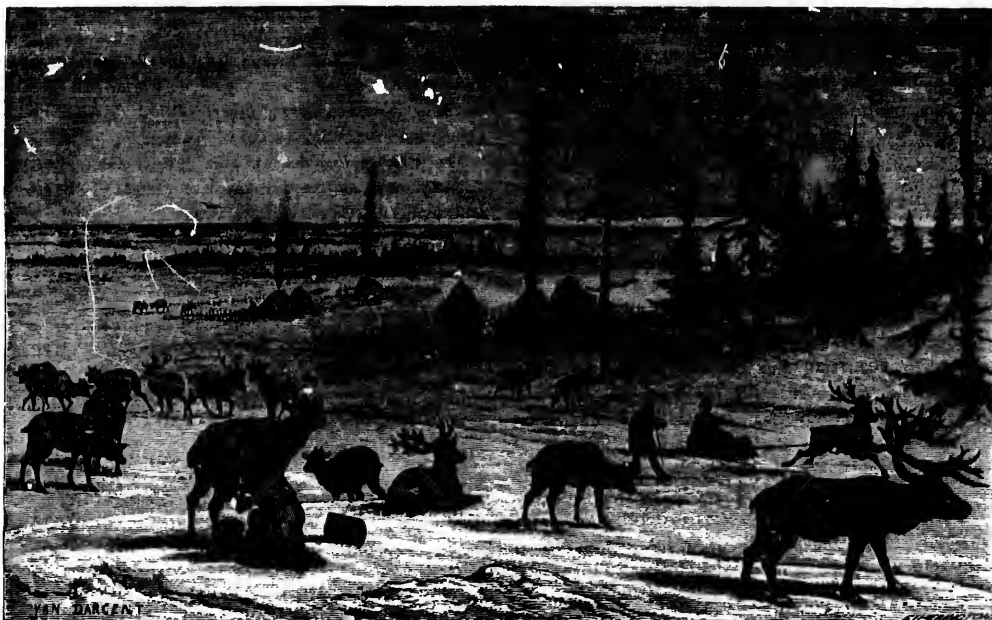
THE BRITISH EMPIRE.

202. The British Empire consists of the United Kingdom of Great Britain and Ireland, with the British Possessions and Colonies scattered over the whole world. In extent of territory it exceeds every other political division, and in population every other except China.

The Empire includes an area greater than all North America, or about one-sixth the land-surface of the Earth; and the population is over 300,000,000.

Below is a tabular view of the British Empire:—

POSSESSIONS IN EUROPE.		
	Area in square miles.	Population.
BRITISH ISLES.....	121,607.....	38,000,000
GIBRALTAR.....	2.....	24,000
MALTA AND GOZO.....	117.....	100,000
	121,728	38,124,000
ASIA.		
INDIA (including tributary States).....	1,378,000.....	267,000,000
CEYLON.....	25,000.....	2,000,000
STRAITS SETTLEMENTS.....	42,000.....	560,000
HONG-KONG.....	30.....	215,000
LABUAN.....	30.....	6,300
ADEN AND PERIM.....	75.....	35,000
CYPRUS.....	8,708.....	186,000
	1,449,843.....	270,892,300
AFRICA.		
CAPE COLONY.....	217,895.....	1,400,000
NATAL.....	21,150.....	481,000
ZULULAND.....	8,900.....	50,000
SIERRA LEONE.....	3,000.....	75,000
GAMBIA.....	60.....	14,000
GOLD COAST COLONY.....	30,000.....	1,400,000
BASUTOLAND.....	10,308.....	180,000
BECHUANALAND.....	45,000.....	44,000
ST. HELENA.....	47.....	4,500
ASCENSION.....	34.....	3,000
MAURITIUS.....	708.....	369,000
LAOOS (island and coast).....	1,000.....	100,000
	338,186.....	4,125,500
Matabeleland, Mashonaland, and North Bechuanaland—area, 250,000 square miles. Eastern Africa—area, 192,000 square miles. Population unknown. Total area of African Possessions, 730,186 square miles.		
AMERICA.		
DOMINION OF CANADA.....	3,470,000.....	5,000,000
NEWFOUNDLAND.....	40,200.....	194,000
BRITISH HONDURAS.....	7,562.....	27,000
BRITISH GUIANA.....	109,000.....	278,000
BERMUDA ISLANDS.....	40.....	15,000
BRITISH WEST INDIES.....	13,500.....	1,213,000
FALKLAND ISLES.....	6,000.....	1,300
	3,640,802.....	6,729,300
OCEANIA.		
AUSTRALIA.....	3,000,000.....	3,030,700
TASMANIA.....	26,215.....	150,000
NEW ZEALAND.....	104,471.....	673,000
FUJI ISLANDS.....	7,740.....	121,000
BRITISH NEW GUINEA.....	90,000.....	135,000
	3,228,428.....	4,040,700
TOTAL.....	9,225,983.....	323,977,390



REINDEER.

NORWAY AND SWEDEN.

203. Norway and Sweden, comprising the peninsula of Scandinavia, form two distinct kingdoms united under one sovereign.

During the Saxon period of British history, Norway, Sweden, and Denmark were the home of bands of pirates called vikings, who were the terror of the other maritime countries of Europe. By the Treaty of Kalmar, 1397, the three countries were united under Margaret of Denmark. Sweden recovered its independence under Gustavus Vasa, in 1521. On the re-adjustment of European affairs in 1814, Norway was taken from Denmark and annexed to Sweden.

204. The coast of Norway is remarkable for its deep narrow bays, called *fjords*, which are often bordered by rocky cliffs of great height.

The *Lofden Islands*, off the north-west coast, are noted for their fisheries. Near them is the *Maelström*, a famous whirlpool formed by opposing currents at certain states of the tide. *Gottland* and *Oland*, in the Baltic, belong to Sweden. Small islands are very numerous on the coast.

205. The surface of Norway is elevated, the *Scandinavian Mountains* extending through the peninsula. The highlands generally rise boldly from the Atlantic, and spread out in

broad table-lands, which are much broken by deep, narrow valleys. A large part of this highland region is destitute of trees, and uninhabitable. The descent on the east to the low plains of Sweden is more gradual.

The Scandinavian highlands include the *Hardangerfeld*, the *Dovrefeld*, and the *Kiolen Mountains*.

206. The rivers are generally rapid torrents. The principal are, the *Glommen*, in Norway; and the *Göta, Dal*, and *Tornea*, in Sweden. All are on the eastern slope.

The most important lakes are, *Wener, Wetter, Mälär*, and *Hielmar*, in Sweden. *Wener* is about the size of Prince Edward Island.

207. The climate is cold, except in the south, but it is less severe than in other countries of the same latitude. The west coast is very humid.

In the northern part of the country, at mid-winter, the sun does not appear above the horizon for several weeks; but the darkness of the long winter night is often relieved by the bright *aurora borealis*. Owing to the correspondingly long days in summer, the heat is great.

208. The minerals are iron, copper, zinc, and cobalt. The

iron ore of Sweden is of superior quality, and is much used in the manufacture of fine steel.

200. **Agriculture** is confined to a very small portion of Norway, only about one-fortieth of the land being fit for cultivation. The south of Sweden yields wheat, rye, oats, barley, flax, and hemp.

Owing to the great heat of summer, barley is cultivated in the northern districts, there being only about two months between seed-time and harvest.

210. The mountain slopes in the southern and central portions are covered with vast forests of birch, pine, and fir trees, yielding excellent timber and large quantities of tar and pitch. The lichens and mosses of the north furnish food to large herds of reindeer.

The fisheries of the coasts, rivers, and lakes are very important.

211. The **inhabitants** are generally intelligent and industrious. Children between eight and fourteen years of age are compelled to attend school, or receive instruction at home. The Lutheran religion is established by law.

Towns.—212. **Christiania** (128,000), the capital and largest city of Norway, is situated on a fiord or bay of the same name.

Bergen is an important port, and has a large trade in cod-fish and cod-liver oil. **Drontheim** was the former capital. **Hammerfest** is on Quadøe Island.

213. **Stockholm** (205,000), the capital of Sweden, is a beautiful city, situated at the eastern extremity of Lake Mälär, and is built partly on small islands. Its chief exports are timber and iron. **Gottenburg** (74,000), on the Göta, is an important port. The other chief places are **Norköping**; **Malmö**; **Upsala**, the seat of a famous university; **Carlsrona**, the chief naval station; and **Kalmar**, noted for the treaty of 1397.

214. The **exports** are fish, timber, iron, copper, and tar. The **imports** are grain, manufactured goods, and tropical produce.

215. The **government** is a limited monarchy. Each kingdom has its own parliament, constitution, and laws.

216. **Lapland**, on the north-east of Sweden, and extending easterly to the White Sea, belongs partly to Sweden and partly to Russia. The Laplanders are a nomadic people of very small stature, seldom exceeding 4 feet 9 inches in height. They belong to the Mongolian race. Their habits are generally moral, except in the use of ardent spirits. Their wealth consists in herds of reindeer. The flesh and milk of these animals furnish the Laplander with food, and their skin with clothing.

The island of Bornholm, in the Baltic, belongs to Sweden.

DENMARK.

217. Denmark is one of the oldest monarchies of Europe. Its history is closely connected with that of Norway and Sweden. In the eleventh century, Canute, a Danish king,

ruled over England, Denmark, Norway, and Sweden. Denmark is now a small weak State.

218. In 1814 Swedish Pomerania and Rügen were given to Denmark in compensation for Norway. In the following year these places were given to Russia in exchange for Lauenburg. Denmark was invaded, in 1864, by German forces, and compelled to relinquish the southern part of her territories, comprising the duchies of *Schleswig-Holstein* and *Lauenburg*. These duchies now belong to Prussia. (*See Norway and Sweden.*)

The Jutes and Angles, two of the tribes who invaded England, came from Denmark.

219. Denmark is now comprised within the peninsula of Jutland and the adjoining archipelago. Its **bounds** are—on the north, the Skager Rack; on the east, the Cattegat, the Sound, and the Baltic; on the south, Prussia; on the west, the North Sea.

The northern extremity of the peninsula is called the *Skaw*.

220. The largest island is **Seeland**, which is nearly as large as Cape Breton, and is separated from Sweden by a narrow strait called the *Sound*. **Fünen**, about half as large, is separated from Seeland by the *Great Belt*, and from the peninsula by the *Little Belt*. **Langeland**, **Laaland**, **Falster**, and **Möen** are next in size.

221. The total **area** of Denmark is about two-thirds that of Nova Scotia. The islands comprise one-third of the whole.

222. The **surface** is low and level. In some parts dikes are required to keep out the sea. The streams are quite small. The soil, except in the north, is generally well suited to agriculture, from which about half the people gain their living. The minerals are unimportant.

223. The **climate** is mild, and excessively humid. The principal crops are barley, rye, wheat, oats, grasses, potatoes, turnips, and apples. Horses, cattle, and sheep are numerous. The fisheries are important.

224. The **inhabitants** have long been noted as bold seamen. They are generally well educated. Denmark is said to have a larger proportion of its population at school than any other country in the world.

The Lutheran religion is established by law, but all sects are tolerated.

Towns.—225. **Copenhagen** (236,000), the capital, is situated partly on Seeland and partly on the small island of Amager. It is the chief centre of commerce and of Danish literature. Its university is of high repute. **Christiansborg**, the royal palace, is very large, and contains a celebrated museum of northern antiquities.

Odensee, on the island of Fünen, is an important city. **Elsinore**, at the narrowest part of the Sound, is the place where all vessels passing to and from the Baltic, except those of Denmark and Sweden, were formerly compelled to pay toll. Near the town is Cronborg Castle. **Aalborg** and **Aarhus** are sea-ports. **Viborg** is a small but ancient town in the interior. **Roeskilde**, 16 miles from

Copenhagen, is the burial-place of the Danish sovereigns. The Rothschild family is said to take its name from this place.

226. The **exports** are agricultural and dairy produce, beef, pork, wool, hides, cattle, and horses. The **imports** are iron, coal, manufactured goods, and tropical produce.

227. The **government** is an hereditary limited monarchy. The *Reichsdag* or Parliament, consists of two Houses, both elective.

228. The **Faro Islands**, north of the Shetlands, belong to Denmark. There are seventeen inhabited. Population, 11,000. Fishing, tending sheep, and collecting siver down, are the chief pursuits.

Denmark also owns *Greenland* and *Iceland*; and in the West Indies *Santa Cruz*, *St. Thomas*, and *St. John*.

QUESTION.—A vessel sails from Hull to Copenhagen and back: through what waters does she pass, and what freights does she probably carry?

RUSSIA.

229. Russia was formerly occupied by barbarous hordes of Scythians. Ruric, a Scandinavian freebooter who made himself master of a large part of the country in 862 A.D., was the founder of the empire. His descendants held the throne till 1598. Christianity was introduced in 980.

230. For two centuries and a half, commencing 1236, Russia was held in bondage by Tartars from Central Asia. It is to the extraordinary efforts of Peter the Great, who became Czar in 1682, that Russia owes her civilization and position as one of the Great Powers of Europe. The country was previously in a state of barbarism. Extension of territory has long been the settled policy of the Czars, and it has often been effected by the grossest injustice towards weaker States.

231. Finland, between the Gulfs of Bothnia and Finland, was taken from Sweden. Poland, once a powerful kingdom in the centre of Europe, having been previously robbed of large territories by Russia, Prussia, and Austria, was wholly broken up in 1795. Large portions of Independent Tartary and other parts of Asia have been annexed to the empire. The absorption of European Turkey is prevented by the opposition of England, Germany, and Austro-Hungary.

232. The **coast** is comparatively limited, and is chiefly confined to seas which are ice-bound during a large part of the year. The chief ports are on the Black Sea and the Baltic.

The principal **islands** are, *Nova Zembla* and *Spitzbergen*, in the Arctic Ocean; and the *Aland Archipelago*, *Oesel*, and *Dago*, in the Baltic.

233. *Nova Zembla* consists of two islands separated by a narrow strait. The coast abounds in seal and water-fowl. Reindeer, polar bears, and ermine are also numerous. There are no permanent inhabitants.

234. *Spitzbergen* consists of a group of islands. They are often visited by those engaged in the whale and seal fisheries.



WINTER TRAVELLING IN RUSSIA.

The **Aland Archipelago**, embracing about sixty islands, is an important naval station for the Russian fleet.

235. European Russia consists of a **vast plain**, sloping from the more elevated central part towards the north, south, and west.

The *Ural* and *Caucasus Mountains* separate Russia in Europe from Asiatic Russia. (See *Europe*, 26, 27.)

236. The **rivers** are numerous and large. They are generally sluggish, and are navigable throughout the greater part of their course. The most important are, the *Dvina*, *Petchora*, *Ural*, *Volga*, *Don*, *Dnieper*, *Dniester*, *Vistula*, *Niemen*, *Duna*, and *Neva*.

237. The **Volga** is the largest river in Europe. It is connected with the Black Sea, the Baltic, and the White Sea by canals and rivers flowing into those seas. Below Astrakhan the Volga is very shallow. The *Neva* is the outlet of the most important lake system of Europe, including Lakes *Ladoga*, *Onega*, and *Saima*.

238. The **climate** varies from warm temperate in the south to severely cold within the Arctic Circle. The extremes are greater than on the west coast of Europe, the summer being very hot and the winter extremely cold.



lands, is an

n, sloping
the north,

in Europe

are gener-
ter part of
Petchora,
en, Duna,

connected
canals and
lga is very
lake system

ce in the
The ex-
rope, the
cold.

CENTRAL & SOUTHERN



English Miles
Scale of 1:12 Miles to an Inch
One Square Inch contains 625,000 Square Miles



East 15 from Greenwich

English Miles

Scale of 2 1/2 Miles to an Inch.
One Square Inch compares 2 1/2 times the Area of One Sq. Inch of Map I.

So
for o
a lar
In th
and
Balti
yield
and
the n

240
stepp
horse

M
platin
and s

242
The
popul
bough

The
is the
establ

To
found
near
its sp
street
count

Cro
strong
Rig
first c
fortifi
forme
year.

244
having
stands
and p
the to
four t
susper
Russi
quarte

Tul
245
for tw
countr
of Rus
Siberi
war
Vilna
Lodr (
246.

Soil and Products.—239. A large part of Russia is unfit for cultivation. In the north is a vast area, frozen during a large part of the year, and producing shrubs and mosses. In the interior are vast forests abounding in bears, wolves, and other wild animals. In the south-west, between the Baltic and Black Seas, is a rich agricultural country, yielding wheat, rye, and other kinds of grain, hemp, flax, and tobacco. The basin of the Dnieper includes some of the most fertile parts of Russia.

240. In the south of Russia are large treeless plains, called steppes, which sustain immense numbers of cattle, sheep, and horses. Towards the Caspian Sea are extensive sandy deserts.

Minerals.—241. The Ural Mountains are rich in gold, platinum, copper, and iron. Salt is obtained both from mines and salt springs.

242. The population is scattered, especially in the north. The lower class, called serfs, including over one-half the population, are very ignorant, and were until recently (1861) bought and sold with the estates on which they lived.

The established religion is the Greek Church, of which the Czar is the head. Other religions are tolerated; but members of the established church are forbidden by law to change their religion.

Towns.—243. **St. Petersburg** (930,000), the capital, founded by Peter the Great, occupies low marshy ground near the mouth of the Neva. One of its streets, noted for its splendid palaces and warehouses, is said to be the finest street in Europe. One-third of the foreign trade of the country is carried on through St. Petersburg.

Cronstadt, on a small island 20 miles west of St. Petersburg, is strongly fortified, and a great naval station.

Riga (175,000), a fortified town on the Gulf of Riga, is one of the first commercial towns of Russia. **Helingsfors** and **Reval** are fortified towns. **Archangel**, near the mouth of the Dwina, was formerly the only port. Its harbor is frozen eight months in the year.

244. **Moscow** (753,000), the former capital, is a magnificent city, having a circuit of 26 miles. On a hill in the middle of the city stands the *Kremlin*, an assemblage of towers, ramparts, churches, and palaces, surrounded by a massive wall 60 feet high. One of the towers contains thirty-three bells, the largest weighing sixty-four tons. A much larger bell, 67 feet in circumference, lies un-suspended. Two thirds of Moscow was burned in 1812, when the Russians set fire to it in order to deprive Napoleon of winter quarters.

Tula is noted for the manufacture of fire-arms.

245. **Nijni-Novgorod** is noted for its great fair, which continues for two months, and is attended by 250,000 people from the various countries of Europe and Asia. **Kiev** (170,000) was long the capital of Russia. **Kazan** (140,000) is an important depôt in the trade with Siberia.

Warsaw (455,000), on the Vistula, was the capital of Poland. **Vilna** (102,000) is an important commercial town of Poland. **Lodz** (113,000) is noted for its cotton-spinning.

246. **Odessa** (270,000), the most important port on the Black Sea,

is strongly fortified. It exports grain, leather, and tallow. **Sebastopol**, in the Crimea, is noted for its siege in 1854 and 1855. **Nikolaijev** (67,000) is a naval station. **Taganrog**, on the Sea of Azov, exports grain. **Astrakhan**, on an island at the mouth of the Volga, carries on an extensive trade with the countries of Asia.

247. The principal exports of Russia are grain, flax, hemp, linseed, timber, naphtha, cattle, tallow, wool, bristles, and leather. The imports are manufactured goods, tea, raw cotton, coal, and tropical produce.

Trade is carried on largely by means of fairs. The greatest fair in the world is held annually at Nijni-Novgorod. The foreign trade is principally with England, Germany, China, and the United States.

248. The government is an absolute hereditary monarchy. The will of the Czar, or Emperor, controlled only by public opinion, is law.

The army in time of peace numbers about 800,000 men; in time of war it is about 1,700,000.

249. The Russian Empire is, next to the British Empire, the most extensive political division in the world. Besides the possessions in Europe, it includes nearly one-third of Asia. The total area is about 8,600,000 square miles, or about one-seventh of the land-surface of the globe. The population is estimated at 112,500,000.

QUESTION.—A vessel sails from New Orleans to Liverpool in England; thence to Odessa; and thence to London; through what waters does she pass, and what are the freights?

THE GERMAN EMPIRE.

History.—250. The German Empire is a confederation of twenty-six states, under the leadership of Prussia. These states, consisting of kingdoms, grand duchies, duchies, principalities, and free towns, differ greatly in size and importance.

251. Germany, composed of many small states, some in scattered fragments, has been called the labyrinth of geographers. It has long held a prominent position and exercised an important influence among the nations of Europe. It formed the eastern half of Charlemagne's empire. From 919 to 1806, the various states were leagued together for mutual defence, under a common elective head, styled the Emperor of Germany. This organization was broken up by Napoleon I. From 1815 to 1866, the German Confederation consisted of thirty-five sovereign states. Each state had independent control over its internal affairs, whilst all matters pertaining to defence were managed by a representative assembly called the *Diet*, which met at Frankfort-on-the-Maine. Austria presided at the Diet; next in importance were Prussia, Bavaria, Württemberg, Hanover, Saxony, and Baden.

252. Prussia, aspiring to the first position, attempted on different occasions to form a new organization of the German states. War broke out between the two rival powers in 1866; and Austria, suffering disastrous defeat in the battle of Sadowa, was compelled to retire from Germany.

Prussia became an independent duchy in 1637. It acquired the

rank of a kingdom in 1701. Frederick the Great, who came to the throne in 1740, made Prussia one of the leading powers of Europe. He greatly enlarged his dominions by the addition of Silesia and part of Poland. (See *Russia*, 231.)

253. Previous to 1866, Prussia consisted chiefly of two detached portions, the Rhine Provinces and Westphalia being separated from the other provinces by intervening German states. In the reconstruction of Germany after the battle of Sadowa, these two divisions were united by the incorporation of Hanover and other states within the bounds of Prussia. The remaining German states were arranged under two heads—*North Germany* and *South Germany*, the river Maine forming the general division-line. North Germany was united in a confederacy called the *North German Bund*, under the leadership of Prussia. Bavaria was the leading power in South Germany.

254. The provinces of Prussia previous to 1866 were *Prussia proper*, *Pomerania*, *Posen*, *Silesia*, *Prussian Saxony*, *Brandenburg*, *Westphalia*, *Cleves*, *Lower Rhine*, *Hohenzollern*, and *Launburg*. The German states incorporated with Prussia in 1866 were *Hanover*, *Hesse-Cassel*, *Hesse-Homburg*, *Nassau*, *Frankfort-on-the-Maine*, *Schleswig-Holstein*, and *portions of Bavaria and Hesse-Darmstadt* north of the Maine.

255. In 1870, war was declared between France and Prussia. In 1871, France, after seeing her emperor a prisoner, and much of her territory, including Paris and other important cities, in the hands of the enemy, was compelled to pay the expenses of the war and cede the provinces of Alsace and Lorraine to Prussia.

256. Once more, in 1871, Germany was reorganized, by the union of all the states, north and south, into one great confederation called the *German Empire*. William, King of Prussia, was elected emperor, with the provision that the succession shall be hereditary in his family, known as the *Hohenzollern Family*. This union of the German states into a great empire, ranking as the first military power in the world, is largely due to the instrumentality of *Prince Bismarck*, then Prime Minister of Prussia.

257. Germany is **bounded** on the north by the North Sea, Denmark, and the Baltic; east, by Russia and Austria; south, by Austria and Switzerland; west, by France, Belgium, and Holland.

258. The **coast** is low, varied by sand-hills. *Stettiner Haff*, *Frische Haff*, and *Curische Haff* are lagoons, or shallow river estuaries, separated from the Baltic by narrow tongues of land. The *Gulf of Lubeck* and the *Gulf of Dantzic* are on the south of the Baltic.

The principal **island** is *Rügen*, in the Baltic, once sacred to the goddess *Herttha*. *Heligoland*, near the mouth of the Elbe, was ceded to Germany by Great Britain in 1890.

259. The **surface** in the north is low, embracing extensive sandy heaths, peat moors, and marshes. Dikes are necessary along some parts of the Baltic coast to protect the country from the sea. The country is more elevated towards the south, becoming hilly and mountainous.

260. The principal **mountains** are, the *Sudetic*, *Riesen-gebirge*, *Erz-gebirge*, and the *Böhmerwald*, on the borders of Bohemian Austria; the *Hartz*, in Saxony; the *Alps*, on the south of Bavaria; the *Schwarzwald*, or *Black Forest*, on the west of Baden; and the *Vosges* in Alsace.

The *Fichtel Mountains*, in Bavaria, separate the tributaries of the Danube from the rivers that flow northerly.

Brocken, the highest point of the Hartz (3540 feet), is noted for the magnified images of objects, called *the Spectre of the Brocken*, seen sometimes in the atmosphere at sunrise. *Schnee-kappe*, in the *Riesen-gebirge*, is 5275 feet high.

261. The **rivers** are of great commercial importance. The principal are, the *Rhine* (*Moselle*, *Maine*, *Neckar*), *Ems*, *Weser*, *Elbe* (*Saal*, *Havel*, *Spree*), *Oder* (*Wartha*), *Vistula*, *Pregel*, *Niemen* or *Memel*, *Danube* (*Inn*, *Iser*).

262. The **Rhine**, 750 miles in length—sometimes called *King Rhine* by the Germans—is the most important river in Germany. It rises in Mount St. Gothard, over 7000 feet above the sea. On the borders of Switzerland it expands into Lake Constance. It is navigable for vessels of 125 tons to Strassburg, and for small steamers to Basel. The beautiful scenery of the Rhine makes it a favorite resort of tourists. Its banks are varied with busy cities, charming valleys, vine-clad hills, and rocky cliffs crowned with ancient towers and castles. The *Elbe* is also noted for its fine scenery.

263. The **soil** in the north is sandy and poor, except in the river-valleys; in the south it is generally fertile.

264. The **climate** is varied. In the west and south, except on the mountains, it is mild; in the north it is humid; in the north-east, cold.

265. The **minerals** are varied and abundant, including silver, iron, copper, lead, zinc, coal, and salt. The shores of the Baltic have long been celebrated for amber, which is washed up by the waves.

266. The **agricultural products** include wheat and other cereals, the vine, flax, hemp, hops, tobacco, and the various vegetables and fruits belonging to temperate climates.

The districts bordering on the Rhine are noted for their excellent wines. The rearing of cattle and sheep is a source of much wealth. Pine forests cover large portions of the sandy lowlands.

267. The **inhabitants** number about 47,400,000.

The Germans are noted for intelligence and industry. Institutions of learning—including universities, academies, normal schools, and common schools—are numerous and of high rank. Attendance at school is compulsory. About 30,000,000 of the inhabitants are Protestants, and 17,000,000 Roman Catholics. In Prussia and Baden, Roman Catholics form the majority. All denominations have equal civil privileges.

Divisions.—268. The twenty-six states of the German Empire include four kingdoms, six grand duchies, five duchies, seven principalities, three republics, and one province under imperial government.

The following are the states, with the number of their representatives in the general assemblies of the Empire:—

KINGDOMS:—	Members in Bundesrath.	Deputies in Reichstag.
Prussia	17	236
Bavaria.....	6	48
Württemberg.....	4	17
Saxony.....	4	23

GRAND DUCHIES :—	Members in Bundesrath.	Deputies in Reichstag.
Baden.....	3	14
Mecklenburg-Schwerin.....	2	6
Hesse.....	3	9
Oldenburg.....	1	3
Saxe-Weimar.....	1	3
Mecklenburg-Strelitz.....	1	1
DUCHIES :—		
Brunswick.....	2	3
Saxe-Meiningen.....	1	2
Anhalt.....	1	2
Saxe-Coburg-Gotha.....	1	2
Saxe-Altenburg.....	1	1
PRINCIPALITIES :—		
Waldeck.....	1	1
Lippe-Deimold.....	1	1
Schwartzburg-Rudolstadt.....	1	1
Schwartzburg-Sondershausen.....	1	1
Reuss-Schleiz.....	1	1
Schaumburg-Lippe.....	1	1
Reuss-Greiz.....	1	1
FREE TOWNS :—		
Hamburg.....	1	3
Lübeck.....	1	1
Bremen.....	1	1
REICHSBLAND :—		
Alsace-Lorraine.....	-	15
	58	397

The Kingdom of Prussia comprises two-thirds of the whole area of the empire, and three-fifths of the population. Bavaria is about as large as New Brunswick, and has about one-eighth of the population of the empire. Baden, from its beauty and fertility, has been called the *Paradise of Germany*.

Towns.—269. Berlin (1,316,000), on the Spree, is the capital of Prussia and of the German Empire, and the largest city. It has important manufactures, and is noted for its literary institutions, museums, and picture galleries. Its university is one of the most celebrated in the world.

270. Potsdam, 18 miles from Berlin, is a principal station for the army, and contains the royal palaces of *Sans-Souci*. Breslau (299,000), on the Oder, the most noted wool market in the world, and Frankfurt are great manufacturing and commercial cities. Danzig (115,000), a strongly fortified town near the mouth of the Vistula, is the most important port, and has a large trade in grain. Stettin, at the mouth of the Oder, Königsberg (151,000), near the mouth of the Pregel, and Memel, on the Curische Haff, export grain and other produce. Posen, once the capital of Poland, exports grain, flax, tobacco, and hops. Magdeburg (114,000), a strongly fortified town on the Elbe, noted for its cathedral and palace, has important manufactures. Wittenberg, on the Elbe, between Berlin and Leipsic, is the place where the Reformation began in 1517. Halle, on the Saale, is noted for its university.

271. Cologne (161,000), noted for its magnificent Gothic cathedral, is the largest and most commercial town on the Rhine. Dusseldorf, on the Rhine, exports the manufactures of Barmen and Elberfeld. Coblenz, a strong town at the confluence of the Rhine and the Moselle, trades largely in Rhenish wines. The strong fortress of Ehrenbreitstein is on the opposite side of the river. Treves, on the

Moselle, is noted for its Roman antiquities. Aachen, or Aix-la-Chapelle, is famous for its hot springs.

272. Hanover (140,000) is a manufacturing and commercial town. Göttingen is noted for its university. Embden is an important sea-port. Cassel manufactures silk, woollen, and cotton goods. Wiesbaden is noted for its hot springs. Frankfurt-on-the-Maine (154,000) was, until 1866, the capital of the Germanic Confederation, and formed an independent republic. Schleswig is a manufacturing town. Altona, Kiel, and Flensburg are commercial ports.

273. Hamburg (306,000), on the Elbe, 70 miles from its mouth, one of the first commercial cities in Europe; Bremen (118,000), a large commercial city on the Weser, where many emigrants embark for America; and Lubeck, once the head of a confederation called the Hanseatic League—are free towns with republican governments.

Dresden (240,000), the capital of Saxony, is a beautiful city, noted for its library, museum, and picture gallery. Dresden china is made at Meissen, 14 miles distant. Leipzig (170,000) is celebrated for its great fairs and book trade. Chemnitz manufactures woollen, linen, silk, and cotton goods. Brunswick, Gotha, and Weimar are noted for literary institutions.

274. Munich (262,000), the capital of Bavaria, situated on a table-land at the foot of the Alps, is noted for its fine public buildings, libraries, picture galleries, and the manufacture of telescopes and mathematical instruments. Hohenlinden, 20 miles from Munich, was the scene of a great battle in 1800. Nuremberg, noted for its manufactures and inventions in the mechanical arts, is an ancient town. Ratibon, on the Danube, is noted for its jewellery. Augsburg, in Bavaria, and Spire, in Rhenish Bavaria, are noted for important events connected with the Reformation. Blenheim was the scene of a great battle in 1704.

275. Stuttgart (126,000), the capital of Württemberg, has a beautiful situation, surrounded by hills clothed with orchards and vineyards. Its royal library is noted for its collection of Bibles in different languages. Ulm has one of the finest cathedrals in Europe. Carlsruhe, the capital of Baden, has thirty-two streets, diverging, like the rays of a fan, from the ducal palace in the centre. Baden-Baden has been long noted for its warm springs, which make it a fashionable watering-place. Heidelberg has a beautiful situation, and is the seat of a noted university. In the cellar of a ruined castle is the famous "Tun of Heidelberg," capable of holding 800 hogsheads of wine. Freiburg is noted for its Gothic cathedral. Darmstadt, Mainz, Worms, and Bingen are the chief towns in Hesse-Darmstadt.

276. Strassburg (112,000) and Metz are within the province of Alsace-Lorraine, acquired from France in 1871. Strassburg, near the Rhine, is strongly fortified, and has a fine Gothic cathedral, with a spire 466 feet high, which contains a wonderful clock representing the motions of the planets. The inhabitants of Strassburg suffered greatly by siege during the Franco-German War of 1870-71.

277. The chief pursuits in Germany are agriculture, manufacturing, mining, and commerce.

The exports are woollens, silks, sugar, flax, linen, pottery, wine, zinc, and various manufactured goods. Saxon wool is considered the best in Europe.

The imports are grain, cotton, silk, wool, fish, sugar, tea, coffee, and various tropical products.

278. The government of the Empire is an hereditary

ed for the magni-
en sometimes in
-gebirge, is 6275

ortance. The
, Ems, Weser,
stula, Pregel,

s called King
r in Germany.
the sea. On
instance. It is
and for small
ine makes it a
sh busy cities,
crowned with
d for its fine

or, except in
rtilite.

and south,
it is humid ;

cluding silver,
of the Baltic
ed up by the

and other
the various
nates.

their excellent
uch wealth.

0.

ry. Institut-
mal schools,
Attendanc
abitants are
Prussia and
nominations

German
chies, five
one pro-

er of their
mpire :—

Deputies in
Reichstag.
236
48
17
23

monarchy, with a Parliament of two Houses, the *Bundesrath* and the *Reichstag*.

The King of Prussia holds the hereditary title of Emperor of Germany. The *Bundesrath* is a federal council, the fifty-eight members of which are appointed annually by the governments of the various states. The consent of this body is necessary to a declaration of war.

The members of the *Reichstag*, numbering 397, are representatives of the people, and are elected by universal suffrage once in three years.

The military system is very complete, embracing all the men under fifty years of age for defensive war, and all under thirty-six for offensive war.

The army on the peace footing numbers about 500,000; on the war footing, about 2,000,000.

Foreign Possessions.—In Africa, estimated area, 950,000 square miles; population, 1,500,000. Pacific Isles, 92,725 square miles; population, 340,000.

AUSTRO-HUNGARY.

279. The nucleus of this empire was a small archduchy called Austria, or the Eastern Government, from its position with respect to Germany. The empire is composed of various countries, some of which were once distinct and powerful nations.

280. Hungary, in the east, is still constitutionally an independent kingdom, attached to the crown of Austria. It was excited to a vigorous but unsuccessful struggle for separation in 1849, by the despotism of the Government. In 1867 self-government was granted to Hungary, and the Emperor of Austria was crowned King of Hungary. Since that time the empire has been called by its present compound name.

281. The present dynasty of Austria, called the *House of Hapsburg*, began with Rudolf I. in 1273. The Dukes of Austria were successively elected Emperors of Germany from 1437 to 1804, when Napoleon substituted the title Emperor of Austria. Under the constitution of Germany adopted in 1815, Austria presided at the Diet, until shorn of that honor by Prussia in 1866.

282. By the Treaty of Berlin in 1878, the occupation of the Turkish provinces of Bosnia and Herzegovina, having an area of 27,000 square miles, and a population of over 1,200,000, was conceded to Austria.

283. Austro-Hungary is bounded, on the north, by Germany and Russia; east, by Russia and Roumania; south, by Roumania, Servia, Turkey, Montenegro, and the Adriatic; west, by Italy, Switzerland, and Germany.

284. The coast, confined to the east side of the Adriatic, is separated from the productive parts of the empire by high mountains.

285. The surface is mountainous, particularly in the west. The principal mountains are, the *Alps*, in the south-west, and the *Carpathians*, in the east and north.

Bohemia and Moravia are surrounded by mountains—the *Erzgebirge*, *Riesengebirge*, *Marischegebirge*, and *Böhmerwald*.

On the north of the Carpathians is the plain of Galicia; on the south, the great plain of Hungary. (See *Europe*, 33.)

286. The rivers embrace the middle course of the *Danube*, with its tributaries the *Inn*, *Drave*, and *Sava*, from the south, and the *March*, *Waag*, and *Theiss* (*Maros*), from the north; and the upper courses of the *Elbe*, *Oder*, *Vistula*, and *Dniester*.

The principal lakes are, *Lalaton* or *Platten See*, *Neusiedler See*, and *Lake Zirknitz*.

287. The soil is generally fertile, but not very carefully cultivated. The plains of Hungary afford pasture for large numbers of cattle, horses, and sheep.

288. The climate, except on the mountains, is mild. The extremes are greater than in Western Europe. In the warmer portions of the south, oranges, lemons, olives, and rice come to maturity.

289. The mineral resources are not surpassed in richness or variety by any state in Europe, embracing iron, copper, coal, quicksilver, lead, salt, gold, silver, zinc, and arsenic.

Quicksilver is very abundant at *Idria*, and salt near *Cracow*. The precious stones include the opal, ruby, emerald, jasper, amethyst, and topaz.

290. The agricultural products include all the common cereals, flax, hemp, and potatoes. The wine grape and mulberry are extensively cultivated in the south. The wines of Hungary are celebrated.

291. The inhabitants belong to several different races. The principal are the German, in the west; Magyar or Hungarian, in the east; and the Slavonian, in the north, north-east, and south. The Slavs form nearly half the whole population. Jews are numerous.

The Germans are the most intelligent. Two-thirds of the inhabitants are Roman Catholics, but other denominations are tolerated.

Divisions.—292. Austro-Hungary comprises the following provinces:—

IN THE KINGDOM OF AUSTRIA: Lower Austria, Upper Austria, Salzburg, Styria, Carinthia, Carniola, Goritz, Tyrol and Vorarlberg, Bohemia, Moravia, Silesia, Galicia and Lodomeria, Bukovina, and Dalmatia.

IN THE KINGDOM OF HUNGARY: Hungary Proper, Transylvania, Banat and Servia, Croatia and Slavonia, Military Frontier.

Towns.—293. *Vienna* (1,350,000), the capital, is situated near the Danube. It is the great seat of manufactures and commerce, and has fine literary institutions. *Prague* (304,000), the chief city in Bohemia, has a celebrated university and extensive manufactures. The city is noted for its beautiful situation, fine palaces, and numerous lofty towers.

294. *Töplitz* and *Karlsbad* are noted watering-places. *Brünn* (87,000), in Moravia, is the chief seat of the woollen manufactures. Twelve miles east is *Austerlitz*, the scene of a great battle in 1805.

Trieste (160,000), on the Adriatic, is the chief port and centro of foreign trade.

295. **Linz** is a fortified town on the Danube. **Salsburg** is noted for its salt-mines. **Gratz** (106,000) is an important manufacturing and commercial city. It has also a noted university and museum. **Idria** is an unhealthy place, with large quicksilver-mines. **Innsbrück** has extensive woollen and silk manufactures. At **Trent** the celebrated Church Council was held from 1545 to 1563.

296. **Lemberg** (122,000), the largest city in Galicia, has a great annual fair. **Cracow** (75,000), the ancient capital of Poland, has a fine cathedral, where many of the kings of Poland were crowned and buried. Near the city is a mound 150 feet high raised in honor of Kosciusko, and composed of earth collected from all his battle grounds.

297. **Buda and Pesth** (422,500), on opposite sides of the Danube, form one city, called **Buda-Pesth**, the capital of Hungary. **Fresburg**, on the Danube, was the ancient capital. **Esmorn** is strongly fortified. **Tokay** and **Erlau** are famous for wines; **Schemnitz** and **Kremnitz** for gold and silver mines; **Debreczin** and **Klausenburg** for manufactures. **Szegedin**, on the Theiss, manufactures soda and tobacco, and is noted for the destruction of property and loss of life by the overflow of the river in 1879.

298. The chief pursuits are agriculture, mining, manufacturing, and commerce.

Manufacturing is most extensive in the German provinces. Bohemia is noted for the manufacture of glass.

The exports are grain, manufactures, minerals, glass, salt, and wine. The imports are cotton, wool, silk, coffee and other tropical produce.

Government.—299. Austro-Hungary is a twofold empire, consisting of Austria Proper and Hungary, each having its own laws, parliament, and ministry, but united under one sovereign and a general parliament, called the *Delegations*.

The army in time of peace numbers about 323,000 men; in time of war 1,600,000.

HOLLAND,

OR THE KINGDOM OF THE NETHERLANDS.

300. The names of this country, signifying *lowlands*, are expressive of its physical character.

In the middle ages Holland and the adjoining kingdom of Belgium consisted of seventeen small states, among which Flanders and Brabant took the lead. In 1406 they became subject to the Duke of Burgundy, and subsequently were inherited by the House of Austria. From Charles V. of Germany the Netherlands passed to his son Philip of Spain.

301. Oppressed by tyranny and persecution, seven of the provinces, in 1579, asserted their freedom from the Spanish yoke, and formed the Republic of Holland, or the *Seven United Provinces*. The new republic, making rapid strides in prosperity, soon became the first commercial country in Europe, and its colonies were established in all parts of the world. Holland became a monarchy in 1747.

Holland is still a prosperous country, but its relative importance has greatly declined.

302. Holland is bounded on the north and west by the North Sea; on the east by Germany; and on the south by Belgium.

The coast in some parts is below the level of the sea; in others it is skirted by broad sand-hills raised by the winds and waves.

303. The surface of Holland is remarkably low and level. The only hills are the sand-banks on some parts of the coast.

The country is protected from inundation along the low coasts and rivers by dikes, in some cases 60 feet high. These dikes are closely watched, and a break is promptly repaired. On the dikes, which intersect the country in all directions, are canals, often bordered with rows of trees, and serving the double purpose of navigation and drainage. Crowds of skaters cover the canals in winter. The lands enclosed within the dikes, called *polders*, are drained by pumps, generally worked by wind-mills. Many small lakes have been drained in a similar manner.

304. The rivers *Scheldt*, *Meuse*, and *Rhine* enter the sea by various channels, and their broad estuaries enclose several islands. The *Zuyder Zee* is a gulf extending 45 miles inland, formed by an irruption of the sea nearly six hundred years ago. Off its mouth is a chain of small islands. The *Lawver Zee* and the *Dollart* are gulfs formed in a similar manner.

By a violent storm, in the early part of the fifteenth century, the sea was driven up the estuary of the Meuse, seventy-two villages were destroyed, and 20,000 people lost their lives.

305. The soil is rich, and carefully cultivated. The climate is very humid, and the bright days in the year are few. In winter the cold is severe.

The products are rye, oats, wheat, buck-wheat, grass, flax, hemp, tobacco, potatoes, and abundance of garden vegetables. The pastures are excellent, and horses and cattle are reared in great numbers. There are no forests.

306. The inhabitants are called Dutch, and are noted for intelligence, industry, enterprise, and cleanliness. About two-thirds are Protestants, and one-third Roman Catholics.

Towns.—307. The **Hague** (153,000), between two arms of the Rhine, near the North Sea, is the usual residence of the king, and the seat of government. It is a beautiful city. **Amsterdam** (399,000), the commercial capital, is on an inlet of the Zuyder Zee, called the Y. It occupies marshy ground, and the houses are built on piles driven deep into the earth. Canals traverse the city in all directions, passing through the centre of most of the streets. **Rotterdam** (198,000), on the Meuse, is also a great commercial city.

308. **Schiedam** is noted for its gin. **Utrecht**, noted for the Treaty of 1713 and for its university, has extensive woollen manufactures. **Leyden** has a fine university. As a reward to the inhabitants of Leyden for their heroism in resisting the Spaniards in 1573, the Prince of Orange offered to found a university in the city, or to free them from taxes. They chose the former. The other impor-

tant towns are **Haarlem** (noted for its flower-gardens), **Delft** (long famous for its earthenware), **Flushing** (a river-port), and **Maastricht**. Near Maastricht is the Hill of St. Peter's, noted for extensive underground stone-quarries.

309. The **manufactures** include paper, linens, woollens, silks, leather, and gin. Machinery is driven principally by wind-mills. Fishing is an important pursuit. The commerce is extensive. A large trade is carried on with the Dutch colonies in the East Indies.

310. The **exports** include dairy produce, live stock, flax, hemp, cotton goods, gin, and refined sugar. The **imports** are lumber, stone, coal, iron, tea, spices, and other tropical products.

311. The **government** is a limited monarchy. The legislature, called the *States-General*, consists of two Chambers.

The revenue is about \$49,000,000. The army numbers about 55,000 men.

312. The **foreign possessions** of the Netherlands are extensive, including the island of *Java*, which is the most important colonial possession, *Celbes*, portions of *Borneo*, *Sumatra*, and *Papua*, the *Moluccas*, *Dutch Guiana*, *Curaçoa*, and other small islands in the West Indies. The population of the dependencies is over 29,000,000.

313. **Dutch Luxembourg**, south-east of Belgium, is a German grand duchy, given to the King of the Netherlands in 1814, but was proclaimed neutral territory by the Treaty of London in 1867. It contains the town of *Luxembourg*, which was formerly one of the strongest fortresses in Europe, but was dismantled under the Treaty of London. Area of territory, 998 sq. m.; pop., 213,283.

QUESTION.—A ship sails from Amsterdam to Batavia in Java, and back: through what waters would she pass, and what freights would she carry?

BELGIUM.

314. Belgium is closely connected with Holland in its early history.

The ten provinces of the Netherlands which now form this kingdom remained under Spain until 1714, when they were ceded to Austria. During the French Revolution they were annexed to France. On the downfall of Napoleon, Belgium and Holland were united as the Kingdom of the Netherlands. This union being distasteful to the Belgians, they withdrew in 1830, and established an independent monarchy under Leopold of Saxe-Coburg.

Belgium is one of the most flourishing small kingdoms of Europe. From the numerous battles fought within its bounds, it has been called the battle-field of Europe.

315. Belgium is bounded on the north-west by the North Sea; on the north by Holland; on the east by Prussia and Luxembourg; and on the south-west by France.

The coast is fringed with sand-hills, and is about 40 miles in length.

316. The **surface** in the north-west is low and level, like Holland; in the south-east it is more elevated and rugged.

317. The principal **rivers** are the *Scheldt* and *Meuse*.

The soil is rendered so productive by careful cultivation, that Belgium has been called the garden of Europe.

The climate is temperate and humid.

318. The **mineral treasures** in the south-east are varied and great. Coal and iron are abundant. The other minerals are zinc, lead, manganese, marble, and slate.

319. The **agricultural products** are grain, flax, hemp, hops, tobacco, sugar beet, culinary vegetables, and grasses.

Horses, cattle, and sheep are reared in large numbers.

320. The **population** is more dense than in any other country, giving an average of 530 to the square mile.

The Belgians are intelligent and industrious. They are famed for skill in music, painting, and architecture. Nearly all are Roman Catholics; but the Protestant as well as the Roman Catholic clergy are supported from the public funds.

Towns.—321. **Brussels** (469,000), the capital, on the Senne, is one of the handsomest towns in Europe. It has extensive and varied manufactures. Its lace and carpets are celebrated. Nine miles south is the battle-field of Waterloo, where Napoleon was defeated in 1815.



MONUMENTS ON WATERLOO.

Antwerp (216,000), on the Scheldt, is the chief commercial city, and contains a splendid cathedral. **Ghent** (150,000), is the chief seat of the cotton manufactures. In its environs are four hundred green-houses. **Bruges**, deriving its name from its numerous bridges, was once a great commercial town. **Ostend**, the only maritime town, is strongly fortified. **Liège** and **Charleroi**, in the mining districts, have very extensive iron manufactures. **Namur**, **Mons**, **Tournay**, **Mechlin**, and **Verviers** are important towns.

322. Belgium is one of the **greatest manufacturing** countries in the world, producing carpets, lace, cottons, woollens, linens, fire-arms, engines, cutlery, and glassware.

323. The **exports** are manufactures, coal and other minerals, flax, dairy produce, and live stock. The **imports** are grain, cotton, dye stuffs, tea, and tropical produce. The rivers, canals, and railways of Belgium afford unrivalled advantages for inland trade.



GRAPE-GATHERING.

324. The **government** is a constitutional monarchy. The legislative power is vested in the King, Senate, and House of Representatives.

The regular **army** numbers about 47,500. The *Duchies of Limburg and Luxembourg* belong partly to Belgium and partly to Holland.

FRANCE.

325. France is one of the most powerful and highly civilized countries of Europe.

326. France, anciently a Roman province called Gaul, obtained its present name from the Franks, who came from Germany in the fifth century. The Frankish monarchy was established by Clovis, 486 A.D.

The most distinguished monarch of France, in early times, was Charlemagne, whose empire included France, Germany, and Italy (768-814). During the middle ages many fierce wars were waged between France and England, particularly in the reigns of Edward III., Henry V., and Henry VI. 327. In recent times, France has been the scene of four revolutions (1789, 1830, 1848, 1870). During the first revolution, Louis XVI. and his queen Marie Antoinette were beheaded; the monarchy was succeeded by a republic; and it again by the empire of Napoleon I. In 1830, Charles X. was dethroned, and the crown was given to Louis Philippe. In 1848, Louis was deposed, and a republican government was organized; which in its turn yielded to the imperial rule of Napoleon III. in 1852. In 1870, Napoleon was deposed, and France again became a republic.

328. By the treaty with Germany in 1871, France was compelled to give up Alsace and Lorraine, including about 5600 square miles of territory and 1,600,000 inhabitants. (See *German Empire*, 255.)

329. France is bounded on the north by the English Channel and Belgium; east, by Germany, Switzerland, and Italy; south, by the Mediterranean and Spain; west, by the Bay of Biscay.

330. The **coast** line is about 1500 miles in length. The most important inlets are, *St. Michael's Bay*, the *Bay of Biscay*, and the *Gulf of Lions*. *La Hague* is the principal cape, and *Corsica* the most important island.

331. The **Island of Corsica**, noted as the birth-place of Napoleon I., is rather larger than Cape Breton. The interior is mountainous. There are several small islands on the coast of France, as *Ushant*, *Belle Isle*, *Ré*, *Oleron*, and *Hyères*.

332. The **surface** is generally level or undulating. The greater part of the country has a westerly slope. The highest mountains are on the borders—the *Pyrenees* separating France from Spain; the *Alps*, between France and Italy; and the *Jura*, between France and Switzerland.

Towards the east are several low mountain ranges, including the *Vosges*, the *Cevennes*, and the *Mountains of Auvergne*. *Mont Blanc*, the *Little St. Bernard*, *Mont Cenis*, and *Monte Viso* are border peaks of the Alps.

333. The principal **rivers** are, the *Rhone (Saone)*, *Adour*, *Garonne*, *Loire*, and *Seine*.

334. The **soil** is generally fertile. The **climate** is, for the most part, exceedingly mild and delightful.

The chief **minerals** are, coal, iron, lead, antimony, and manganese. The yield of coal and iron is not equal to the consumption.

335. The **agricultural** products include wheat and other kinds of grain, the vine, sugar beet, flax, hemp, tobacco, olive, and mulberry. Oranges and lemons grow in the south.

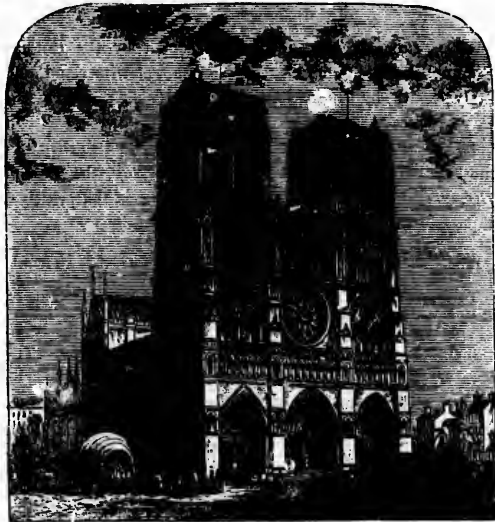
The vine has been extensively cultivated for ages. The mulberry was introduced in the fifteenth century. The cultivation of the sugar beet is confined chiefly to the north and east. There are large forests of oak, beech, chestnut, and pine, in which bears, wolves, wild boars, and the chamois are numerous.

336. The **inhabitants** are mainly Celtic, with some admixture of the Teutonic race.

The French are fond of show and pleasure. The peasantry are very ignorant; but the higher classes are well educated. Of the 38,000,000 inhabitants, about 700,000 are Protestants; 64,000 are Jews; and 30,000,000 are Roman Catholics.

Towns.—337. **Paris** (2,500,000), the capital, occupying both banks of the Seine, 111 miles from its mouth, is the second city of Europe in population and the first in splendour.

Paris is noted as a great centre of fashion and art, and also for its magnificent public buildings, libraries, art galleries, gardens, and places of amusements. The *Tuileries*, one of the most magni-



NOTRE DAME, PARIS.

ficent palaces in the world, was destroyed by a Parisian mob in 1871. The *Louvre*, once a royal palace, is now converted into a grand library and art museum. *Notre Dame* is a fine Gothic cathedral. In the environs of Paris are *Versailles*, noted for its splendid palace; *Sevres*, famed for its porcelain; and *Fontainebleau*, noted for its forest.

338. **Cherbourg**—with a great breakwater and strongly fortified—**Brest**, **L'Orient**, **Rochefort**, and **Toulon** are the chief naval stations; **Le Havre**, or **Havre de Grace**, at the mouth of the Seine, is the

greatest commercial port of the north; **Marseilles** (380,000) is the most important in the south. The other important ports are **Dunkirk**, strongly fortified; **Calais**, long owned by the English; **Boulogne**; **Dieppe**; **St. Malo**; **La Rochelle**, once a stronghold of the Huguenots; and **Nice**.

339. **Lyons** (400,000), at the confluence of the Rhone and Saone, is the greatest manufacturing town, including silks, cottons, woollens, and jewellery. The following are important manufacturing towns:—**Lille** (188,000), strongly fortified; **Valenciennes**; **Cambray**; **Amiens**; **Rouen** (107,000), with a fine cathedral; **Toulouse** (148,000); **Nimes**, noted for antiquities; **Besancon**; **Nancy**; **Rheims**, noted for its cathedral; **Troyes**; **Tours**; **Limoges**; **Moulins**; **St. Etienne** (118,000); **Nantes** (127,000); and **Grenoble**.

340. **Toulouse** is an ancient and important city, noted as the scene of Wellington's victory over the French under Soult in 1814. **Bordeaux** (240,000), on the Garonne, trades largely in wines, brandy, and dried fruit. **Bayonne** is noted as the place where bayonets were first made. **Montpellier** is a great resort of invalids. **Avignon** was the residence of the Popes in the fourteenth century. **Chamouni**, in Savoy, is a village at the foot of Mont Blanc. **Ajaccio** and **Eastia** are the chief places in Corsica.

341. The leading **industries** are agriculture, manufacturing, and commerce.

France ranks next to Britain in manufactures and commerce.

The most important manufactures are jewellery, cabinet-work, pottery, chemicals, woollens, carpets, silk, velvet, linen, and lace.

The manufacture of wine and of beet-root sugar are among the chief industries.

342. The chief **exports** are wines, brandy, silks, cottons, gloves, lace, jewellery, olive oil, and preserved fruits. The imports are cotton, coal, tea, sugar, and tropical produce.—Total value of exports, \$685,600,000.

343. The **government** of France is republican. The president is chosen for the term of seven years by the Legislature.

The **Legislature** consists of two bodies,—the *Chamber of Deputies*, elected by universal suffrage, and the *Senate*, elected for nine years.

344. France is one of the first military powers of the world. The army in time of peace numbers about 555,000 men; in time of war, 2,500,000. The navy ranks next to that of Great Britain.

345. The **foreign possessions**, including countries under French protection, have a total area of 1,195,000 square miles, and a population of about 29,000,000. The principal are:—

In America, *French Guiana*, *Guadeloupe*, *Martinique*, and some others of the West Indies; *St. Pierre* and *Miquelon*, on the coast of Newfoundland.

In Africa, *Algeria*, *Senegal*, *Gaboon*, the *Island of Reunion*, and other territories of West Africa; also *Tunis* and *Madagascar*, under French protection.

In Asia, *French India*, *Cochin-China*, and *Tonquin*.

In Oceania, *New Caledonia*, *Marquesas*, *Tahiti*, and other small islands.

QUESTION.—A vessel sails from Halifax to the West Indies; thence to France; and thence to St. John: what freights would she carry?

SWITZERLAND.



CHAMOIS HUNTING.

346. Switzerland, anciently called *Helvetia*, derived its present name from the Canton of *Schweitz*, which took a leading part in freeing the country from the Austrian yoke, in the beginning of the fourteenth century.

347. Switzerland is bounded on the north by Germany; on the east by Austria; on the south by Italy; and on the west by France.

The country is wholly inland, and is one of the smallest States of Europe. Extreme length, 208 miles; breadth, 156 miles.

348. The surface is greatly diversified by mountains, valleys, plateaus, snow-fields, glaciers, lakes, and streams. The southern half of the country is in the lofty *Alpine* region. The *Jura Mountains*, separated from the Alps by an elevated plain, are on the west.

Mont Blanc is on the borders of Switzerland, France, and Italy; *Rosa* and the *Matterhorn* are between Switzerland and Italy. Other important peaks are *St. Gothard*, *Jungfrau*, *Finster-Aarhorn*, and *Schreckhorn*. The mountains are in some places cleft by gorges several thousand feet in depth.

The most noted passes over the mountains are those of *Great St. Bernard*, *Mont Cenis*, and the *Simplon*.

349. The higher mountains are covered with perpetual snow, which sometimes descends in immense avalanches into the valleys. Land-slips also occur sometimes. Whole villages have thus been buried many feet in earth and rocks.

In summer, the glaciers, creeping down the elevated valleys, contrast strangely with adjacent orchards and grain-fields.

The magnificent scenery of Switzerland is very attractive to tourists. Climbing the lofty mountains is very difficult and dangerous. Very few are able to reach the summits of the higher peaks.

350. Many rivers, as the *Rhine*, *Aar*, *Inn*, *Rhone*, and *Ticino*, have their origin in the Alpine glaciers.

The lakes are, the *Lake of Geneva*, *Neufchatel*, *Constance*, *Lucerne*, *Zurich*, and others, noted for their beauty.

351. The soil capable of tillage, which forms but a small proportion of the country, is carefully cultivated.

The climate and products vary with the elevation. The lower grounds and valleys yield the vine, the common grains, potatoes, and various fruits. Extensive mountain pastures sustain great numbers of cattle, sheep, and goats.

352. The Swiss are brave, industrious, and intelligent. It is rare to meet with a Swiss who cannot read and write.

About three-fifths of the inhabitants are Protestants; the remainder, Roman Catholics.

Towns.—353. Switzerland consists of twenty-two independent States, called *Cantons*. The inhabitants are collected in small towns and villages, but there is no city which has a population of 100,000.

The principal towns are *Berne*, *Friboury*, *Lausanne*, *Geneva*, *Neufchatel*, *Basle*, *Lucerne*, *Zurich*, *St. Gall*, *La Chaux-de-Fonds*, *Loole*, and *Schaffhausen*.

Berne (46,000), on the *Aar*, is the seat of the Federal Diet. *Lausanne* has a beautiful situation on Lake Lemman. *Geneva* (72,000), at the efflux of the *Rhone* from Lake Lemman, is the largest city. It is noted for its manufactures of watches and jewellery. Many illustrious men have resided here at different times. *Basle* (70,000) is at the head of steam navigation on the *Rhine*. *Zurich* (28,000, but with suburbs 90,000) has been called the Athens of Switzerland.

354. The leading industries are agriculture, grazing, and manufacturing.

The most important manufactures are watches, jewellery, cheese, silks, cottons, and wood carvings, which form the chief exports.

355. The government is a federal republic. There is no standing army; every citizen of proper age is liable to military service. Total number, 473,500.

SPAIN.

356. Spain, once in the front rank of European states, is now a second-rate power.

357. Spain formed a Roman province under the name of *Hispania*. In 711, the Saracens, having previously subdued the whole northern coast of Africa, crossed the narrow Strait of Gibraltar into Spain, and in the course of a few years established their power throughout the greater part of the peninsula. The kingdom established by these Mohammedans was, in 1027, broken up into a number of petty states, which gradually yielded to the



BULL FIGHT.

rising power of the Christian kingdoms of Portugal, Aragon, and Castile. The Mohammedans were expelled from Spain by Ferdinand and Isabella in 1492. These sovereigns by their marriage united the kingdoms of Aragon and Castile, and laid the foundation of the Spanish monarchy. Under their patronage Columbus discovered America. Spain, with her vast colonial possessions, then became one of the richest and most powerful States of Europe. She held beneath her sway Mexico, Central America, two-thirds of South America, and the Netherlands. Driven to rebellion by misgovernment and tyranny, most of the Spanish colonies have asserted their independence.

358. Spain is bounded on the north by the Bay of Biscay and France; east and south by the Mediterranean; west by Portugal and the Atlantic.

359. The surface of Spain is greatly diversified. A narrow strip of low land borders the Atlantic and the Mediterranean. The interior consists of a rugged table-land from 2000 to 3000 feet high, sloping rapidly towards the Mediterranean and more gently towards the Atlantic. There are several mountain ranges extending east and west.

360. The principal rivers are, the *Minho*, *Douro*, *Tagus*, *Guadiana*, *Guadalquivir*, *Ebro*, *Guadalquivir*, *Xucar*, and *Segura*.

361. The soil is generally good, but badly cultivated.

362. The climate on the coast and in the valleys is very hot. The table-lands are subject to drought and scorching heat in summer, and severe cold in winter.

363. Spain is rich in minerals, including silver, iron, lead, quicksilver, copper, tin, rock salt, and coal. Spain is one of the first

lead-producing countries in the world. Through want of enterprise in the inhabitants, the mineral wealth is largely undeveloped.

364. The agricultural products include the vine, orange, lemon, olive, fig, mulberry, wheat, maize, cotton, flax, hemp, rice, dates, and sugar-cane. The forests contain the cork-tree, evergreen oak, and chestnut. The palm grows in the south.

Large numbers of horses, mules, and sheep are pastured on the table-lands. The merino sheep are noted for the fineness of their wool.

365. The inhabitants are generally ignorant, a large proportion being unable to read or write. The education of the people is now receiving more attention. Nearly all the inhabitants are Roman Catholics.

Towns.—366. **Madrid** (472,000), the capital and largest city, is situated on a dry and barren plateau in the interior. It contains one of the finest picture galleries in the world. About thirty miles to the north-west is the Escorial, a famous palace, nearly a mile in circuit.

Barcelona (272,000), on the Mediterranean, is the first city of Spain in manufactures and commerce. **Valencia** (170,000) is noted for its silks; **Murcia** (98,000) for nitre and gunpowder. **Cartagena** is an ancient city with a fine harbor and a naval arsenal. **Malaga** (134,000) exports wine and raisins. **Granada** (78,000), **Seville** (143,000), noted for the manufacture of tobacco, and **Cordova** (55,000), were noted Moorish capitals. Near Granada is the Alhambra, a famous palace of the Moorish kings.

367. **Cadiz** (62,000), a fortified city on the Isle of Leon, is a large commercial city. A few miles inland is **Xeres**, where sherry wine is extensively manufactured. **Corunna**, a fortified port, contains the tomb of Sir John Moore. **Ferrol** is a naval arsenal. **Bilbao** is an important port. **San Sebastian** is strongly fortified. **Saragossa** (92,000) is a large city on the Ebro. **Valladolid**, **Salamanca**, and **San Lago de Compostella** have universities. **Segovia** is noted for its Roman aqueducts. **Toledo** was long famous for its sword blades. **Palma** (60,000), on **Majorca**, contains a large palace once occupied by the Inquisition.

368. The chief industries of Spain are agriculture, grazing, and mining. The manufacture of tobacco, arms, and gunpowder is carried on by the government. The trade is chiefly with Great Britain and France.

369. The principal exports are wines, silk, brandy, olive oil, raisins, lemons, oranges, cork, wool, quicksilver, lead, and salt;—value, \$144,970,000.

370. The government is a constitutional monarchy. The legislature consists of two Chambers or Houses—the *Senato* and the *Congress*.

The army numbers about 145,000 men. The revenue is \$152,000,000.

371. The **Balearic Isles**, a group of five islands, **Majorca**, **Minorca**, **Iviça**, **Formentera**, and **Cabrera**, in the Mediterranean, form a province of Spain. They have a united

area of 1860 square miles, and a population of 290,000.

Products—wine, olives, and flax.

372. The **foreign possessions** of Spain are, *Ceuta* and *Tetuan*, on the north coast of Morocco; the *Canary Isles*, *Fernando Po*, and *Annabon*, and extensive territories on the west of Africa; *Cuba*, *Porto Rico*, and some small islands, in the West Indies; and the *Philippine*, *Sulu*, *Caroline*, *Pelew*, and *Ladrons Islands*, in Oceania. Total area about 434,000 square miles; population, 10,000,000.

373. **Gibraltar** (24,000), situated at the extremity of a rocky promontory on the south of Spain, has belonged to



GIBRALTAR.

Great Britain since 1704. Its fortress, considered the strongest in the world, is 1500 feet above the sea. The chief importance of the town arises from its commanding position at the entrance of the Mediterranean.

PORTUGAL.

374. Portugal corresponds nearly with ancient *Lusitania*. Its early history is closely connected with that of Spain. It became an independent monarchy in 1139.

Portugal took a leading part in the discoveries of the fifteenth century, and thus obtained vast colonial possessions. Her navigators discovered Madeira, the Azores, and Brazil, explored the west coast of Africa, doubled the Cape of Good Hope, and discovered the maritime route to the East Indies.

From 1580 to 1640, Portugal was subject to Spain. Since the latter date, the throne has been held by the House of Braganza. (See *Brasil*, 84.)

375. Portugal lies between Spain and the Atlantic Ocean, from the mouth of the Minho to the mouth of the Guadiana. The length of the country from north to south is about 360 miles, and the average breadth about 100 miles.

376. The **surface** of Portugal is elevated in the interior, especially towards the north. The coast country is generally low and sandy, and there are few harbors except at the mouths of the rivers.

377. The chief **rivers** are, the *Minho*, *Douro*, *Mondego*, *Tagus*, and *Guadiana*. All except the Mondego take their rise in Spain.

378. The **climate** is mild and healthful. The rainfall on the coast is very great during the winter months. Violent earthquakes have sometimes occurred in Portugal.

Iron, copper, lead, manganese, antimony, and salt are plentiful.

379. **Agriculture** is much neglected, although the soil is naturally fertile. The culture of the vine and of the olive are leading industries.

380. The other **products** are wheat, barley, oats, maize, flax, and hemp. The lowlands yield rice, oranges, lemons, and figs. There are large forests of oak, chestnut, and cork.

Mules, sheep, and goats are numerous.

381. The **inhabitants** are temperate, polite, and hospitable; fond of music, dancing, and bull-fights. The lower classes are ignorant, superstitious, and miserably poor. The only religion is the Roman Catholic.

Towns.—382. **Lisbon** (247,000), the capital, has a beautiful situation on the estuary of the Tagus. Among its objects of interest is a great aqueduct, by which the fountains and wells of the city are supplied with water. The city has been often visited by earthquakes. The most noted was in 1755, when 50,000 persons lost their lives.

Oporto (106,000), near the mouth of the Douro, exports large quantities of wine. It is the chief seat of manufactures, including linen, silk, cotton and woollen goods, hats, lace, and hardware. **Coimbra** is the seat of the only university. **Braga**, **Setubal**, **Evora**, and **Elvas** are important towns. **Angra** is the capital of the Azores; **Ponta Delgada** (18,000) is the largest town.

383. The principal **exports** are wine, olive oil, oranges, lemons, silk, cork, and copper. The **imports** include cotton and woollen fabrics, iron, coal, and machinery.

384. The **government** is a constitutional monarchy. The legislative power is vested in the sovereign and the *Cortes*, which consists of a Chamber of Peers and a Chamber of Deputies.

The **army** numbers about 33,000 men. The **revenue** is about \$23,000,000.

385. The **foreign possessions** are, the *Azores Isles*, on the west of Europe; *Madeira Isles*, *Cape Verde Isles*, *St. Thomas*, and *Prince's*, on the west coast of Africa; the districts of *Congo*, *Angola*, and

Benguela, in the west of Africa, and *Mozambique* and *Sofala* in the east; *Goa*, and other small stations, in India; *Macao*, in China; *Timor*, and other small places, in Malaysia. Area, about twelve times the extent of the home territory; population, 3,600,000.

386. The *Azores*, 800 miles west of the mainland, consist of a number of small islands, having a united area equal to one-third of Cape Breton, and a population of 270,000. The islands are volcanic and elevated. They are very fertile, yielding wine, sugar-cane, tobacco, and oranges. *Ponta Delgada* is the largest town.

ITALY.



THE COLISEUM.

387. The Kingdom of Italy has been organized since 1859, by the combination of various small states.

Since the dissolution of the Roman Empire, in 476, Italy has been the scene of many political changes. The Lombards established the kingdom of Lombardy in the north in 568. The Pope became ruler of the central part of Italy about the middle of the eighth century. The greater part of the country was included in Charlemagne's empire, and it was subsequently annexed to Germany.

388. During the middle ages, Northern Italy comprised a large number of independent republic cities, the more important of which were *Venice*, *Genoa*, *Florence*, *Pisa*, *Bologna*, *Milan*, *Cremona*, and *Parma*. They were noted for commercial enterprise, and for the animosity with which they waged war with each other.

389. Napoleon I. made the states of Northern Italy dependencies of France, and gave Naples to his general Murat. The Congress of Vienna, in 1815, divided Italy into the following states:—The *Kingdom of Sardinia*, including Piedmont, Savoy, Nice, and the island of Sardinia; *Austrian Italy*, including Lombardy and Venetia; the *Grand Duchy of Tuscany*; the *Papal States*; the *Kingdom of Naples and Sicily*; the *Duchies of Parma, Lucca, and Modena*; and the small *Republic of San Marino*.

390. In the re-organization of Italy, Sardinia formed the nucleus

to which the other states were annexed. Austria, defeated by France and Sardinia in 1859, gave up Lombardy; and again defeated by Prussia and Sardinia in 1866, she yielded Venetia. In 1860, Naples and Sicily were added, through the victories of Garibaldi. Other states annexed themselves voluntarily. Finally, in 1870, the Papal Territory was absorbed, and Rome became the capital of united Italy. Savoy and Nice, lying west of the Alps, were ceded to France in 1860.

391. Italy is separated from France, Switzerland, and Austria by the Alps. A large part of the kingdom is comprised within the boot-shaped peninsula between the Adriatic and the Mediterranean. It also includes the important islands of *Sicily* and *Sardinia*.

392. *Sicily*, separated from the mainland by the Strait of Messina, is the largest island in the Mediterranean, having an area of 11,200 square miles. Mount Etna, in the east, is one of the most remarkable volcanoes in the world. Sicily is very fertile, yielding grain, vines, and olives. Population, over 3,225,000. The *Lipari Islands*, on the north of Sicily, are a cluster of small volcanic islands, one of which, *Stromboli*, containing an active volcano, is called the lighthouse of the Mediterranean.

393. *Sardinia* is about half the size of Nova Scotia. The interior is mountainous. There are extensive marshes on the coast. The climate is insalubrious. The products are similar to those of Sicily. Population, 730,000. *Caprera*, a small island off the north-east coast of Sardinia, is noted as the residence of Garibaldi. *Elba*, separated from the coast of Tuscany by the Strait of Piombino, is 18 miles in length. It was assigned to Napoleon in 1814 by the Allied Powers.

394. The surface of Italy is diversified with mountain, plain, and valley. The Alps curve around the northern and north-western frontiers, and the Apennines extend the whole length of the peninsula.

There are many beautiful and fertile valleys in Italy.

In the north, between the Alps and the Apennines, is the extensive and level plain of Piedmont, Lombardy, and Venetia, watered by the *Adige* and the *Po*, and of unsurpassed fertility. Along portions of the coast are extensive, low, marshy tracts, covered with rank vegetation, and exhaling pestilential malaria. The most important are the *Maremma*, *Campagna*, and *Pontine Marshes*, on the west coast of the provinces of Tuscany and Rome.

395. The chief rivers are the *Po*, *Ticino*, *Adige*, *Arno*, *Tiber*, and *Volturno*.

The *Po*, the most important river of Italy, has for ages brought down immense quantities of earth. The town of Adria, a sea-port at the Christian era, is now 15 miles inland. The bed of the river has also been so much raised in some places that huge dikes are built to keep the water in the channel.

At the foot of the Alps are the beautiful Lakes *Maggiore*, *Como*, and *Garda*.

396. The climate is delightful and salubrious, except in the coast marshes, which are uninhabitable in the hot season.

Italy is noted for its clear blue sky. The south is subject to

earthquakes, and to a hot wind called the *strocco*, which blows from Africa.

397. The **mineral products** are iron, sulphur, borax, and marble.

398. **Agriculture** is greatly neglected, except in the north. The chief products are wheat, maize, wine, oil, raw silk, olives, rice, flax, and hemp.

Cotton, sugar-cane, oranges, and dates grow in the south.

Among the **domestic animals** are large herds of cows. In the south, noxious scorpions and tarantulas are numerous.

399. The **sea and river fisheries** are important. Sardines and anchovies are largely exported.

400. The **inhabitants**, with the exception of the Waldenses in the valleys of Piedmont, are nearly all Roman Catholics. They are noted for their skill in music, painting, and architecture. Except in the north, the common people are ignorant and indolent. Notwithstanding the genial climate and fertile soil of the centre and

south, in no country are there more beggars. Brigandage renders travelling unsafe in many localities. Education is rapidly progressing.

Towns.—401. **Rome** (275,000), the capital of Italy, once the mistress of the world, was founded 752 B.C. It is situated on the Tiber, 15 miles from its mouth. It is noted for fine specimens of architecture and wonderful remains of past ages. It contains over 360 churches. *St. Peter's Cathedral* is the largest and most magnificent church in the world. The Papal Palace, called the *Vatican*, is a splendid building adjoining St. Peter's, and is noted for its library and art collections, and is said to contain 4000 apartments. Among the other objects of wonder in Rome are the *Columns of Trajan and Antoninus*, of white marble, 120 feet high, and the triumphal *Arches of Titus and Constantine*. In many places are piles of ruins, half concealed by twining ivy and groves of cypress. The *Coliseum*, beyond the limits of the modern city, is a vast amphitheatre, now in ruins, once capable of accommodating 80,000 spectators. Under a part of the city are subterranean galleries, called the *Catacombs*, which are noted as the places of

refuge where the early Christians hid themselves in times of persecution.

Civita Vecchia (18,000) is a sea-port, 40 miles from Rome.

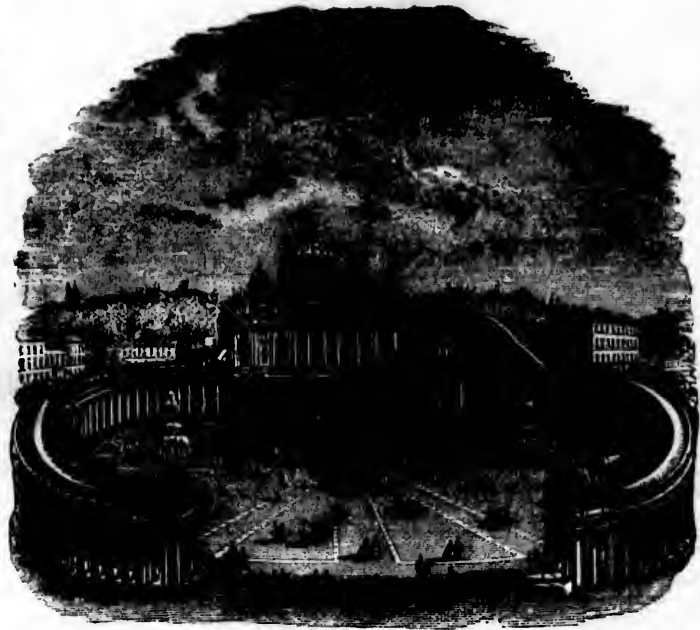
402. **Florence** (135,000) is on the Arno, 50 miles inland. It is noted for its palaces and churches of the middle ages, and for its galleries of art. **Pisa** contains many fine buildings, and has a remarkable leaning tower. **Leghorn** (79,000) is the chief sea-port of Tuscany, and one of the greatest commercial cities of Italy.

Turin (230,000), the former capital of Sardinia, is noted for its churches, museums, and fine squares. **Genoa** (138,000) has a fine harbor, and is strongly fortified. Its manufactures and trade are extensive. **Alessandria** is strongly fortified.

403. **Milan** (300,000), with extensive manufactures and trade, has fine art galleries, museums, churches, and palaces. **Magenta** and **Solferino** are noted as places where the Austrians were defeated in 1859. **Pavia, Brescia, Bergamo, Como, Parma, Piacenza, Modena, Reggio, and Lucca** are important towns. **Mantua** is the birthplace of Virgil.

404. **Venice** (130,000), once at the head of a powerful republic, and the greatest commercial port in the world, is built on seventy-two islands in a lagoon. Canals serve the place of streets. Venice is the birthplace of Canova, the great sculptor. **Padua, Verona, and Vicenza** are other important towns.

405. **Bologna** (104,000) is the seat of an ancient university. **Ferrara** was once a great commercial town. **Ravenna** contains the tomb of the poet Dante, and many interesting remains of mediæval art. **Ancona** is a sea-port; **Perugia** is an ancient city.



ST. PETER'S CATHEDRAL.



LEANING TOWER OF PISA.

406. **Naples** (460,000), the largest city in Italy, has a beautiful situation on the Bay of Naples. It has several grand public libraries, and its museums are rich in antiquities and art collections. A few miles from Naples are the partially excavated cities, *Herculaneum* and *Pompeii*, which were buried by an eruption of *Vesuvius* (A.D. 79). *Gaeta* is a fortified sea-port. *Capua* is also strongly fortified.

407. **Palermo** (206,000), the capital of Sicily, is a great commercial city, founded by the Phœnicians. It was the scene of the massacre known as the "Sicilian Vespers" in 1282. **Messina** (78,000) has a fine harbor and an extensive commerce. Near the shore is the famed whirlpool of *Charybdis*; and nearly opposite, on the Italian side, are the rocks of *Scylla*. **Catania**, at the foot of *Etna*, has suffered greatly from earthquakes. **Trapani** is engaged in the coral fishery; **Marsala** exports wines; **Girgenti** exports sulphur. **Cagliari** is the capital of the island of *Sardinia*. **Sassari** is an important town.

408. The leading industries are agriculture and grazing. Manufacturing is of considerable importance in the north, embracing silks, cottons, woollens, braided straw, artificial flowers, and kid gloves.

The exports are raw silk, olive oil, wine, fruit, zinc, marble, sulphur, borax, and straw-plait. Total value of exports, about \$170,000,000; imports, \$223,000,000.

409. The government is a constitutional monarchy. The Legislature comprises the Senate and the Chamber of Deputies.

The army numbers about 255,000 men, but can be greatly increased in time of war. Revenue, \$342,000,000.

Since 1860 the country has rapidly risen in importance, and now ranks with the Great Powers of Europe.

GREECE.



THE ACROPOLIS OF ATHENS.

410. **Hellas**, or ancient Greece, was renowned as the seat of freedom, art, and civilization.

After submitting to the most degrading Turkish oppression for nearly four centuries, the Greeks in 1821 made a bold stand for independence. After a long, indecisive struggle, Great Britain and other powers interfered in 1827, compelled Turkey to acknowledge their freedom, and erected the country into a kingdom.

The Bavarian Prince *Otho* ruled from 1832 until 1862, when he was deposed, and in the following year the crown was bestowed on *George* of Denmark.

411. Greece is partly continental and partly insular. The continental portion is almost divided into two parts by the Gulf of *Lepanto*, on the west, and the Gulf of *Ægina*, on the east.

Turkey lies on the north of Greece; the *Ægean* on the east; and the *Mediterranean* on the south and west.

412. The coast is very irregular, and of great extent compared with the area.

413. The southern section of Greece is called the *Morea*. It is connected with the northern part by the *Isthmus of Corinth*. *Capo Matapan* is the most southerly point.

414. The surface of Greece is mountainous. The *Pindus Mountains*, extending south from Turkey, divide into several ranges.

Mount Guitona, the highest point in Greece, has an elevation of 3240 feet.

Mount Parnassus is over 8000 feet high. The famous pass of *Thermopylae* is between the mountains and the sea on the east.

415. **Insular Greece** consists of many small islands. The principal are, *Eubœa* or *Negropont*, the *Cyclades*, and part of the *Sporades*, on the east; and the *Ionian Islands*, on the west.

416. *Eubœa*, 115 miles in length, and from 4 to 30 miles in breadth, is the largest island belonging to Greece. Its valleys are fertile, but poorly cultivated.

417. The *Cyclades* include about twenty principal islands. *Syra*, about ten miles in length, is the most important. *Paros* is noted for its marble, *Antiparos* for its grotto.

418. The *Ionian Islands* formed a republic, under the protection of Great Britain, from 1815 to 1864, when they were ceded to Greece. They are associated with many interesting historic events. There are seven principal islands,—*Corfu*, *Pazo*, *Santa Maura*, *Thiaki*, *Cephalonia*, *Zante*, and *Cerigo*. United area, about 1040 square miles. Population, 230,000.

419. The **climate** is mild and healthful. The sky in summer is remarkably clear. The sirocco sometimes renders the heat intense. In the highlands the cold in winter is severe.

420. The principal **products** are grain, the vine, olive, fig, mulberry, currant, date, and orange. Honey is produced in great quantity. Agriculture is in a very backward state, and the implements used are of the rudest kind.

421. The **inhabitants** are a mixed race. They are temperate, active, and shrewd. Nearly all belong to the Greek Church. The inhabitants of the islands are fond of a seafaring life. The mountains are infested with bandits.

The ancient Greeks were renowned soldiers; and among them were many distinguished poets, historians, philosophers, and artists.

Towns.—422. *Athens* (114,000), the capital, is said to have been founded 1556 B.C.; but the present city is principally modern. In the vicinity are many interesting antiquities—as the Acropolis and Parthenon, the Areopagus, and the remains of the Temple of Jupiter Olympus, consisting of sixteen columns sixty feet high. The Plain of Marathon is 25 miles north-east of Athens.

Corinth and *Sparta* were also noted ancient cities. Some of the other towns on the mainland are *Nauplia*, *Navarino*, *Tripolizza*, *Patras*, and *Argos*.

423. *Syra*, or *Hermopolis* (27,000), on the island of *Syra*, is the most important commercial city of Greece. Nearly all the imports pass through this port. Other important places are, *Egripos*, on *Eubœa*; *Hydra*, on an island of the same name near the east coast of the *Mœrea*; and *Corfu* and *Zante*, in the *Ionian Isles*.

424. The leading **pursuits** are agriculture, grazing, and commerce. The inhabitants of the coast are skilled seamen, and carry on a large part of the trade of the Mediterranean.

425. The **exports** consist of raw produce, as cotton, silk, wool, currants, figs, and other fruit, tobacco, wine, olive oil, honey, wax, and sponge. Total value of exports about \$20,000,000. Manufactured goods of nearly all kinds are imported.

426. The **government** is a constitutional monarchy. The legislative power is vested in a Chamber of Deputies, elected by universal suffrage. The **army** numbers about 26,000. Revenue, \$16,000,000.

TURKEY.

427. Turkey, or the Ottoman Empire, consists of *Turkey Proper*, embracing extensive territory in Europe and Asia, and several tributary states in Africa.

428. Turkey in Europe was greatly reduced in extent and population in 1878 by the Berlin Congress, composed of representatives of the Great Powers of Europe. By the treaty drawn up at this Congress, *Roumania*, *Serbia*, and *Montenegro* were declared independent states; *Bœnia* and *Herzegovina* were placed under the government of Austria; *Bulgaria* was made a tributary principality; and *East Roumelia* was made a tributary autonomous province.

429. The Turks, who are the ruling race in the empire, originally migrated from Central Asia. They obtained their first footing in Europe by the conquest of Adrianople, in 1361, and completed the overthrow of the Byzantine Empire by taking Constantinople, in 1453.

The Turks once threatened the subjugation of all Europe. Their progress westward was arrested by the Hungarians and Poles. In recent times Turkey has been much weakened by disastrous wars with Russia.

430. Turkey in Europe is bounded on the north by *Roumelia* and *Serbia*; on the east by the Black Sea and the Sea of Marmora; on the south by the Archipelago and Greece; and on the west by the Adriatic, *Montenegro*, and *Austria*.

431. The *Bosphorus* is a strait, 17 miles long and 1 mile broad, between the Black Sea and the Sea of Marmora. The *Dardanelles*, or *Hellespont*, 40 miles long and from 1 to 4 miles broad, connects the Sea of Marmora with the Archipelago. A strong current flows southerly through these straits.

432. The principal European **islands** belonging to Turkey are, *Candia* or *Crete*, *Lemnos* or *Stalinene*, *Imbros*, *Samo-thraki*, and *Thaso*.

433. *Crete*, famous in Grecian fable, is 150 miles long, and from 6 to 35 miles broad. The island is mountainous. *Mount Ida* is 7600 feet high. Near it is an immense cavern, supposed to be the ancient Labyrinth. The island is very fertile, yielding grapes, olives, oranges, and silk. Population, 210,000—mostly Greeks. Capital, *Candia* (12,000).

434. The **surface** of Turkey is mountainous. The principal mountains are the *Balkans*, the *Rhodope*, and the *Pindus*.

435. The **climate**, except at high elevations, is mild and delightful.

436. The **products** are wheat, corn, rye, millet, rice; and

in the south, the vine, olive, tobacco, cotton, oranges, and other fruit; also coffee, poppies, and silk.

The cultivation of the soil is greatly neglected, and the implements of husbandry are very rude. In many parts the chief wealth consists in cattle, sheep, goats, and bees.

437. The **population** consists of various races. The Turks, though the dominant race, are not the most numerous. They call themselves Ottomans or Osmanli, considering Turk a term of reproach. Greeks are numerous in the south. A wandering race, called Gypsies, are numerous in some provinces. There are also many Slavonians, Jews, and Armenians.

Mohammedanism is the established religion. Education is greatly neglected, consisting, amongst the Mohammedans, of little else than the ability to read the Koran. Polygamy is allowed to those who have means to keep their wives. The women occupy apartments which no stranger is permitted to enter, and on going out they veil their faces so as to conceal all but their eyes. The men often wear loose, flowing robes, and the costumes differ greatly from those of Western Europe.

Towns.—438. **Constantinople** (875,000), the capital, is situated on a beautiful harbor of the Bosphorus, called the Golden Horn. The houses are mostly of wood, and the streets are narrow and filthy. The domes and minarets of the mosques present a splendid appearance from the water. St. Sophia, once a Christian church, is the finest mosque. The Seraglio is an old imperial palace, the chief entrance to which is called "The Sublime Porte," a term often applied to the Turkish Government. Baths are very numerous in Constantinople.

Adrianople (100,000), on the Maritza, is the second city of Turkey. It trades in opium and silk. **Gallipoli** (30,000) is an important port on the Hellespont. **Salonica** (60,000) and **Rodosto** are important places.

439. The **industries** of Turkey are unproductive, considering the great natural resources of the country. Its manufactures are mostly domestic, consisting of woollens, carpets, silks, shawls, leather, and perfumery.

440. The **exports** consist of agricultural products, fruit, silk, wool, and morocco. Almost all kinds of manufactured goods are imported. The commerce is chiefly carried on by Greeks and other foreigners.

441. The **government** is an absolute monarchy. The sovereign is styled the *Sultan*, and his chief minister the *Grand Vizier*. The Sultan is the head of the Mohammedan religion, and is regarded as the successor of the great prophet. Parliamentary government was adopted in 1876, but was abolished after only one session.

442. The regular **army** consists of about 160,000 men. The revenue is about \$78,000,000.

443. The various **provinces of Turkey** are ruled by governors

called *pachas*, who are often ignorant and base, crushing all spirit of enterprise and improvement by their rapacity.

444. The **Ottoman Empire** includes an area of about 1,653,000 square miles, and a population of 34,000,000.

BULGARIA AND EASTERN ROUMELIA.

445. Bulgaria and Eastern Roumelia were formerly under Turkish rule. In 1878, by the Treaty of Berlin, they were erected into self-governing States tributary to Turkey. In 1886 they were united under one government.

446. Bulgaria lies south of Roumania, from which it is separated by the Danube; Eastern Roumelia is on the south of Bulgaria. Both countries border on the Black Sea. The Balkan Mountains extend east and west between them. Near the Black Sea are extensive plains.

447. The total area is 37,860 square miles, of which about two-thirds are comprised in Bulgaria.

448. **Agriculture** is the chief industry. The products comprise wheat and other cereals, grapes, tobacco, roses, silk, and honey.

Roses are cultivated for the costly perfume called attar of roses. Their culture is a special feature in a valley on the south of the Balkans, near the Shipka Pass.

Large numbers of swine and sheep are raised.

449. The inhabitants are an enterprising people. They belong principally to the Greek Church.

450. **Sophia** (30,400) is the capital.

Philippopolis (33,400) is the chief town in Roumelia. **Varna** is a fortified sea-port. **Widdin**, **Nicopolis**, and **Rustchuck** are important towns on the Danube.

451. The **government** is designated a *Principality*. The prince, or head officer, is elected by the people. This election requires to be confirmed by the Sublime Porte and the Great Powers of Europe. The Legislature consists of a single Chamber called the *National Assembly*. Revenue, \$12,350,000.

ROUMANIA.

452. Roumania, situated chiefly between Austro-Hungary and Russia on the north, and the River Danube on the south, was declared an independent Principality by the Berlin Congress in 1878.

It consists of the two provinces *Moldavia* and *Wallachia*, and of the Dobrudscha, south of the Danube.

453. The **Carpathian Mountains** form a great barrier wall along the western frontier, from which there is a south-easterly slope toward treeless plains or steppes, which form a large part of the country. Near the Danube are extensive swampy districts.

454. The soil is generally fertile, and agriculture is an important industry.

455. The climate is subject to extremes,—intense heat in summer and severe cold in winter.

456. The products include wheat, maize, flax, hemp, tobacco, grapes, and other fruit.

The forests of Moldavia are extensive and important. Much of the wealth of the country consists in cattle, horses, sheep, and swine. Honey and wax are also important products.

457. The inhabitants, numbering over 5,370,000, belong principally to the Greek Church. The Jews number about 400,000.

Towns.—458. Bucharest (220,000), the capital, has a large trade with Austria.

Jassy (90,000), beautifully situated on a mountain slope near the river Pruth, carries on considerable trade in agricultural produce. Galatz (80,000), on the Danube, is the most important commercial city in the country, exporting grain, wool, and other products, and importing various manufactured goods. A large part of the trade is with Great Britain.

459. The government of Roumania is a limited monarchy.

The army consists of about 38,000 men, but can be increased to 145,000 in war.

SERVIA.

460. Servia, declared an independent Principality of Turkey by the Berlin Congress of 1878, is separated from Austro-Hungary by the river Danube. It is about the size of Nova Scotia.

461. The surface is generally hilly and mountainous. Near the rivers Save and Danube are swampy plains. The forests are extensive, abounding in oak and chestnut.

462. The soil in the valleys is fertile, and is well suited to tillage and grazing. A very small proportion of the country is under cultivation.

463. The products include wheat and other cereals, the vine, apples, and pears. The chief wealth of the country consists in cattle, sheep, and hogs.

464. The inhabitants, chiefly of the Slavonic race, number about 1,580,000. They are a vigorous, clever, and enterprising people, strongly attached to their country. The Servians were long oppressed by the tyranny of the Turks.

Towns.—465. Belgrade (38,000), the capital, has an im-

portant position at the confluence of the Save and the Danube. It manufactures fire-arms, cutlery, silks, and carpets, and has a large trade with Austria.

466. The government is a limited monarchy, with a Parliament elected by the people.

MONTENEGRO.

467. Montenegro was declared an independent Principality by the Berlin Treaty. It is situated on the east of the Adriatic Sea, from which it is separated, except at the extreme south, by a narrow strip of Austrian territory.

468. The area is nearly twice that of Prince Edward Island

469. The surface is mountainous, and a large part of the country is covered with forests. Agriculture, which is carried on in the most primitive manner, is the chief occupation.

Few cattle are reared, but sheep, goats, and swine are numerous.

470. The inhabitants, numbering about 236,000, are rude and uneducated, but they are noted for their hardihood and bravery. Agriculture is the chief pursuit.

471. Cettigne (1500), a small village, is the capital. The houses in the villages of Montenegro are generally rudely built huts, without chimneys. Antivari is a small place on the Adriatic.

472. The chief ruler or prince is nominally aided in the government by a Council of eight members, but practically his will is law.

EXERCISES.—1. A traveller proceeds from London to the Shetland Isles; thence to Christiania, Stockholm, and St. Petersburg;—required the distances between the stations, and the difference of time.

2. Edinburgh and Moscow are near the same latitude. State how they differ in respect to climate, and give the principal causes of difference.

3. What places in America are near the parallel passing through London?

4. Find the principal towns on the Danube—the Rhine—the Rhone.

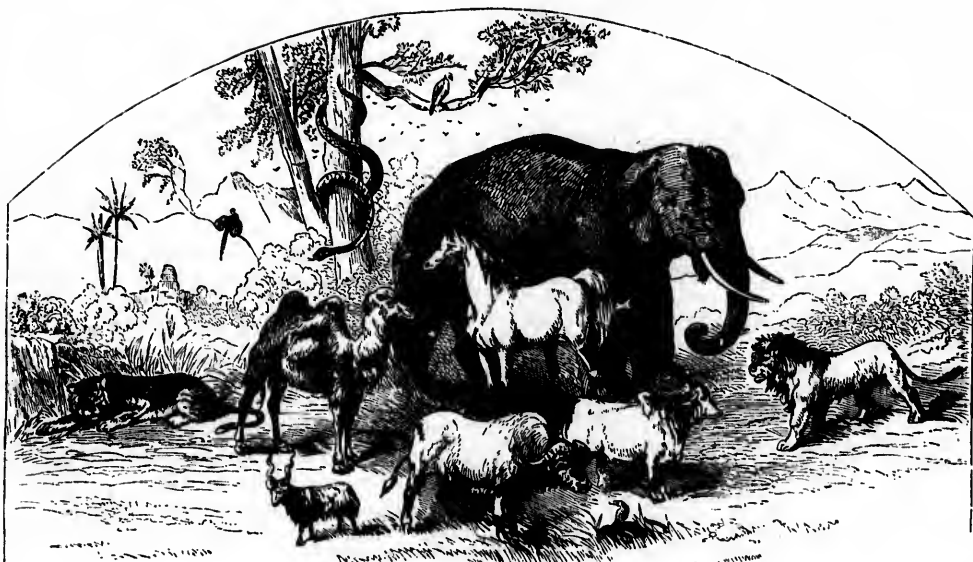
5. State the leading points of difference between the mountains of Europe and those of America.

6. If the Atlantic and Pacific Oceans were united by a broad channel through Central America, what would be the probable effect on the climate of Europe?

7. How was the commerce of Venice affected by the discovery of the passage around the Cape of Good Hope?

8. State the chief advantages which Britain derives from its insular position.

ASIA.



ANIMALS OF ASIA.

I. History.—1. The name *Asia* was first applied to a district in the peninsula of Asia Minor, and subsequently extended to the whole continent. The origin of the term is unknown. Asia is the largest of the great divisions of the Earth, and contains nearly two-thirds of the human race.

2. The western part of the continent has been the scene of the most important events which ever occurred on our Earth. Here, probably, man was created; and here, somewhere between the Caspian and Black Seas, was the Garden of Eden, where he fell. Here, in the land of Palestine, the greater part of the Bible was written; here our Saviour was born, and lived, and was crucified.

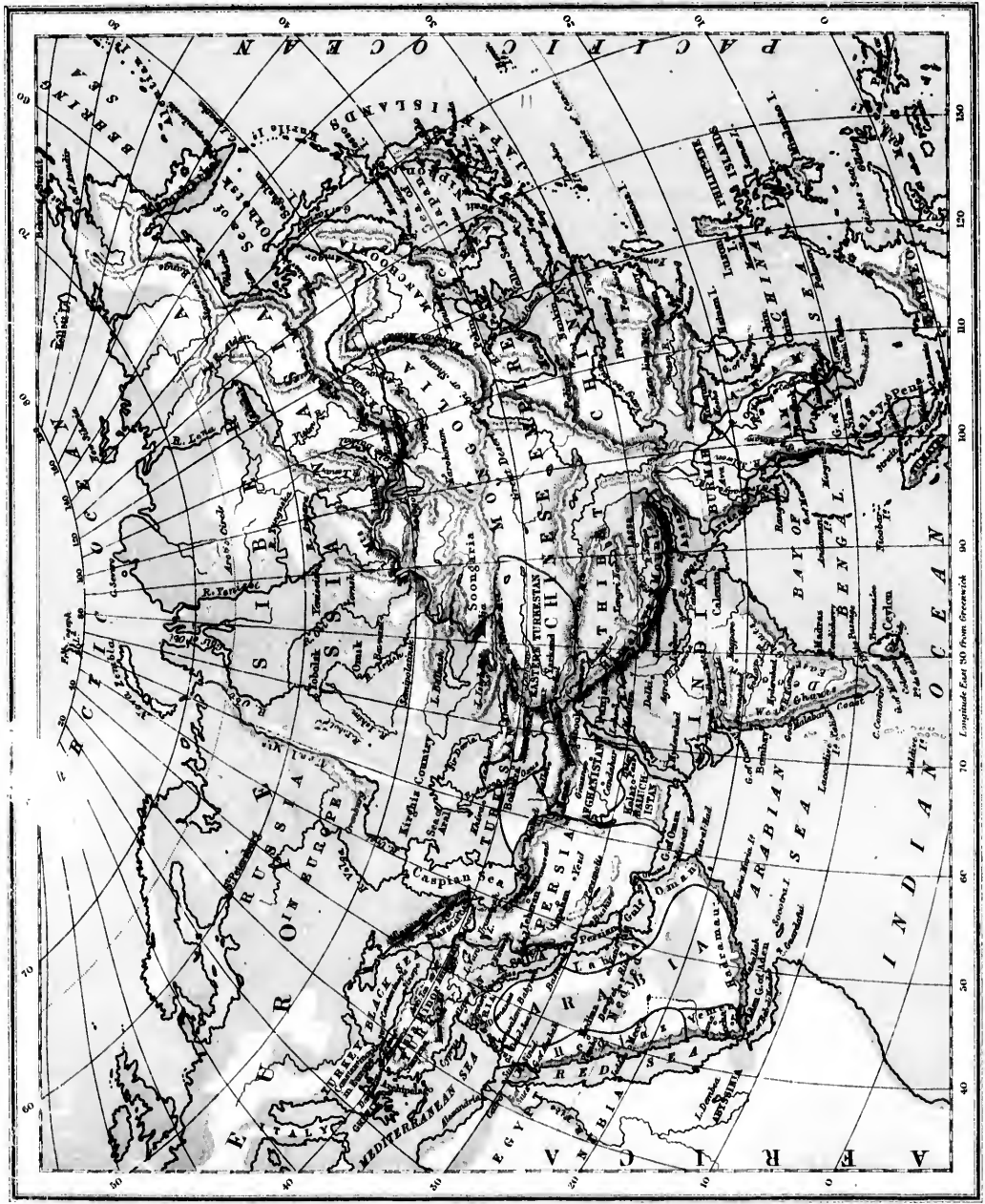
3. In Western Asia, near the rivers Euphrates and Tigris, flourished in succession the ancient empires of Assyria, Babylon, and Medo-Persia. Then this whole region yielded to the power of

Europe: first to Greece, 331 B.C.; and then to Rome, during the century preceding the Christian era. The next important changes which passed over Western Asia were the Mohammedan conquests, in the second quarter of the seventh century A.D.

Central Asia has from time immemorial been occupied by nomadic pastoral tribes, who have on several occasions overrun Eastern and Western Asia, and have at different times penetrated far into Europe. The Mongol chief Genghis Khan, who lived in the early part of the thirteenth century, and his descendants Kublai Khan and Timur or Tamerlane, subjugated a large part of the continent.

4. The Crusades, or wars waged by the Christian powers of Europe for the possession of Palestine, resulted in opening trade between Europe and Asia. Intercourse was still further promoted by the discovery of the ocean route to Asia around the Cape of Good Hope in 1498. The Portuguese, who were the discoverers of this way, were the first to avail themselves of its advantages. In the beginning of the seventeenth century the Dutch became powerful rivals of the Portuguese in the trade and colonization of Southern Asia and its islands.

ASIA



Green - General elevation below 1000 feet
 Yellow - General elevation between 1000 and 2000 feet
 Pink - General elevation above 2000 feet
 Pictorial boundaries etc.

English Miles
 0 200 400 600 800 1000 1200 1400 1600 1800 2000

Scale of 594 Miles to an Inch.
 One square Inch comprises 4621 times the Area of One Sq. Inch of Map 1.

during the
 at changes
 conquests,
 y nomadic
 eastern and
 far into
 the early
 al Khan
 the con-
 powers of
 ning trade
 promoted
 e Cape of
 covers of
 ages. In
 the power-
 Southern

The
the ce
the vi
Britis

II.
sphen
exter

The
east,
Euro

Strai
N.

II
irreg

As
they
on th

IV
and
lar a
east

The
is mu
coast

8.

the 1

Sea o

Corea

Gulf

Mal

naar

Cutch

Aden

Red

the 2

Cons

9.

Mal

The

Lopa

Had,

10.

the 3

Islan

ippin

bar,

on th

11.

Ocean

The French and British, also, were rivals for the occupation of the central peninsula of the south, or Hindostan. The latter were the victors. The battle of Plassey in 1757 was the beginning of British triumphs in Southern Asia.

II. Position.—5. Asia is wholly in the Northern Hemisphere. It approaches within 100 miles of the Equator, and extends over 800 miles beyond the Arctic Circle.

The Arctic Ocean lies on the north, the Pacific on the east, and the Indian Ocean on the south. The continents of Europe and Africa lie on the west and south-west. Behring Strait, on the north-east, separates Asia from North America.

N. lat. 1° 15'—78° 20'; lon. 26° E.—170° W.

III. Form.—6. The general form of Asia is that of an irregular four-sided figure.

Asia has, like Europe, three great projections on the south; but they are here on a grander scale. There are also three projections on the east, and one on the west.

IV. Coast.—7. Asia has the sea on the north, east, south, and part of the west. The coast line, though not so irregular as that of Europe, is deeply indented, particularly on the east and south.

The total length of coast line is estimated at 35,500 miles. This is much less, in proportion to the size of the continent, than the coast line of Europe.

8. The principal **coast waters** are, the *Gulf of Obi*, on the north; *Behring Strait*, *Behring Sea*, *Gulf of Anadir*, *Sea of Okhotsk*, *Gulf of Tartary*, *Sea of Japan*, *Strait of Corea*, *Yellow Sea*, *Gulf of Pe-cho-lee*, *China Sea*, and the *Gulf of Tonquin*, on the east; the *Gulf of Siam*, *Strait of Malacca*, *Bay of Bengal*, *Gulf of Martaban*, *Gulf of Manaar*, *Palk Strait*, *Arabian Sea*, *Gulf of Cambay*, *Gulf of Cutch*, *Gulf of Oman*, *Strait of Ormuz*, *Persian Gulf*, *Gulf of Aden*, and the *Strait of Bab el Mandeb*, on the south; the *Red Sea*, *Gulf of Akabah*, *Gulf of Suez*, *Mediterranean Sea*, the *Archipelago*, the *Dardanelles*, *Sea of Marmora*, *Strait of Constantinople*, and the *Black Sea*, on the west.

9. The chief **peninsulas** are, *Kamchatka*, *Corea*, *Anam*, *Malaya*, *Hindostan*, *Arabia*, and *Asia Minor*.

The principal **capes** are, *Serera*, on the north; *East Cape* and *Lopatka*, on the east; *Cambodia*, *Romania*, *Comorin*, and *Ras al Had*, on the south; and *Baba*, on the west.

10. The chief **islands** on the coast are, *New Siberia*, on the north; *Alutian Isles*, *Kurile Isles*, *Saghalien*, *Japan Isles*, *Loo Choo Isles*, *Formosa*, *Hainan*, and the *Philippine Isles*, on the east; *Borneo*, *Sunda Isles*, the *Nicobar*, *Andaman*, *Maldives*, and *Laccadive Isles*, and *Ceylon*, on the south; and *Cyprus*, on the west.

11. **New Siberia** consists of a group of islands in the Arctic Ocean. They are uninhabited, and they have neither tree nor

shrub. Some of the islands are remarkable for fossils, consisting of the bones and teeth of large animals.

12. The **Alutian Isles** comprise several groups of rocky islands on the south of Behring Sea. They contain active volcanoes. The few inhabitants live by hunting and fishing. The islands belong to the United States.

13. The **Kurile Isles** and the **Loo Choo** belong to Japan. (See 311, 312.)

14. **Saghalien** is a long, narrow island west of the Sea of Okhotsk. It belongs to Russia. The area is 47,600 square miles; and the population 13,000. The rivers and coasts abound in fish, and the forests in fur-bearing animals. It is used as a place of exile.

15. **Formosa** received its name from the Portuguese in consequence of the attractive appearance of its mountain slopes. It is about the size of the Peninsula of Nova Scotia. It is very fertile, yielding rice, sugar, and tropical fruits. The western side of the island belongs to China; the eastern is occupied by independent savage tribes.

16. **Hainan**, also belonging to China, is about the size of Manitoba. The interior is mountainous. The products are rice, sweet potatoes, tobacco, and tropical fruits. Population, 2,500,000. (For the *Philippine Isles*, *Borneo*, and *Sunda Isles*, see *Malaysia*.)

17. The **Nicobar Isles**, in the Bay of Bengal, are very fertile. The climate is humid and unhealthy. They belong to Great Britain. The **Andaman Isles**, also belonging to Great Britain, have a total area equal to Cape Breton. The inhabitants are uncivilized and are few in number. (For *Ceylon*, see *British India*.)

18. The **Maldivé Isles**, situated in the Indian Ocean, about 400 miles south-west of Hindostan, comprise many groups, each of which is surrounded by a coral reef. Most of the islands are circular in form, slightly elevated above the sea, with a lagoon in the centre. The products are grain, bread-fruit tree, fig, and other tropical fruits. The inhabitants, numbering about 150,000, are Mohammedans. They are ruled by a native prince, styled "The Sultan of the Twelve Thousand Isles," who pays an annual tribute to the Governor of Ceylon.

19. The **Laccadive Isles**, 150 miles west of Hindostan, produce rice, sweet potatoes, cocoa, and betel-nuts. The population is about 7000. They pay an annual tribute to the Government of British India.

20. **Cyprus** is situated in the Levant, or eastern end of the Mediterranean Sea, about fifty miles from the coast of Asia Minor. It was taken by the Turks in 1571. In 1878 the Sultan granted to Great Britain the right to occupy the island in consideration of an annual money payment and a guarantee to protect Turkey in Asia against Russian aggression. Cyprus has an area of about 3700 square miles. The surface is mountainous, the highest point being 6500 feet above the sea. The climate is hot, and in some parts unhealthy. The soil is very fertile. The products are wine, cotton, silk, wheat, and fruit. *Nikosia* (11,500) is the capital. The island is of great importance to Great Britain as a naval station. Population, 186,000.

V. Area.—21. Asia is twice as large as North America, and includes one-third the land surface of the Earth.

The area of Asia is 17,000,000 square miles; or it is equal to a square of 4123 miles. The extreme length from the Strait of Bab el Mandeb to Behring Strait is 6900 miles.

VI. Surface.—22. Asia presents great diversity of surface, varying from one-fourth of a mile below the sea-level, near the mouth of the Jordan, to five and a half miles above the sea, at the summit of Mount Everest, a peak of

the Himalayas. It thus furnishes the greatest depression and elevation known on the Earth's surface.

23. Central Asia, including nearly half the continent, consists of table-land, bordered and intersected by lofty mountain ranges. From this highland region there are three general slopes,—the **great plain of Siberia** on the north, the **extended plains of China** on the east, and the more abrupt **southern slope**. The highlands of Asia may be divided into two sections—the *western highlands*, and the *eastern highlands*.

24. The **western highlands** comprise the table-lands of Asia Minor, Armenia, Persia, and Arabia. The principal mountains are, the *Taurus* and *Anti-Taurus* in Asia Minor, the *Mountains of Lebanon* in Syria, the *Mountains of Armenia*, the *Caucasus Mountains*, and the *Elburz* in Persia.

25. The *Taurus Mountains* have an extreme elevation of 13,200 feet. The *Mountains of Armenia* have their culminating point in *Mount Ararat* (17,112 feet). The highest point of the *Elburz* is the volcanic peak of *Demavend* (21,500 feet), south of the Caspian Sea. The *Mountains of Lebanon* have an extreme elevation of 12,000 feet.

26. The **eastern highlands** extend from Turkestan and Afghanistan to the eastern coast, a distance of 2800 miles. They include the most elevated table-land and the loftiest mountains in the world. The western extremity of this highland region, the Pamir plateau, from which the mountain ranges radiate, is called "The Roof of the World." The principal table-lands are *Tibet* and the great *Desert of Gobi*. The mountain ranges are:—

The *Hindoo Koosh*, and *Bolor Tagh*, in the west; the *Himalaya Mountains*, forming the southern border of the highland region; the *Altai Mountains*, forming the northern border; the *Kuenlun* and *Thian Shan*, extending through the middle.

27. The **Himalayas** are the highest mountains in the world. *Mount Everest*, the culminating point, is 29,002 feet high; and more than forty peaks exceed 23,000 feet. The passes are very elevated and dangerous.

28. The **Highlands of Tibet**, situated between the Himalayas and Kuenlun Mountains, consist of table-land, mountain ranges, and elevated valleys from 10,000 to 15,000 feet above the sea. The **table-land of Pamir**, to the north-west of the Kuenlun Mountains, has an elevation of 16,000 feet.

29. The **Desert of Gobi**, on the north of the Kuenlun Mountains, is a table-land, having an average elevation of 3500 feet. It is 1500 miles in length, and from 500 to 700 miles in breadth, comprising East Turkestan and Mongolia. The western part is sandy; the eastern is a stony desert. The **Khingan Mountains** are on the east of the Desert of Gobi.

30. The other important mountain ranges of Eastern Asia are the *East* and the *West Ghauts* in Hindostan; the *Peling* and the *Naning* in China; and the *Yablonoi* and *Stanovoi* in the east of Siberia.

31. The **low plain** in the north of Asia is nearly twice as large as Europe, comprising the greater part of Siberia and Turkestan. It is separated from the plain in the north-east of Europe by the Ural Mountains. In the neighborhood of the Caspian Sea are extensive tracts of country considerably below the level of the ocean. The eastern part of Siberia is more uneven and elevated than the western.

32. **Volcanoes** are very rare in Asia, except in the peninsula of Kanchatka and the islands, where they are numerous. *Demavend* is the only active volcano in the south-western highland region; in the eastern plateau there are but two, which are in the *Thian Shan* range.

Earthquakes frequently occur in the south-west of Asia.

VII. **Rivers**.—33. The great rivers of Asia drain the northern, eastern, and southern slopes of the eastern highland region. Those of the northern and eastern slopes are among the largest rivers in the world.

34. The **rivers of the north** are frozen over in their lower course during the greater part of the year, and hence are of little importance in navigation. Owing to the slight descent, they have sluggish currents; and, on the melting of the snows in spring, overflow their banks, inundating large tracts of country. The principal rivers of this slope are, the *Obi*, *Yenisei*, and *Lena*.

The *Obi* is 2500 miles in length, the *Yenisei* 2900, and the *Lena* 2400.

35. The **rivers of the eastern slope**, flowing through fertile and populous countries, are navigable for hundreds of miles, and are of great importance to trade. The principal are, the *Amoor*, the *Hoang Ho*, and the *Yang-tse-Kiang*.

The *Amoor* is 2640 miles long; the *Hoang Ho*, 2600; and the *Yang-tse-Kiang*, which is the largest river in Asia, 3200.

36. The **rivers of the southern slope** are generally rapid. The most important are, the *Mekong* or *Cambodia*, *Salween*, *Irrawaddy*, *Tsanpu* or *Brahmaputra*, *Ganges*, and *Indus*. The *Godavery* and *Nerbuddah* are important rivers in Hindostan.

The **Ganges** is about 1600 miles long. It brings down vast quantities of mud, by which an extensive delta has been formed at its mouth. The lower part of the delta is called the *Sunderbunds*. In passing through the delta, the river is broken up into several channels, which are much obstructed by moving mud-banks. The tide enters by a high wave called the *bore*, which rushes up at the rate of eighteen miles an hour. During the rainy season the river overflows its banks, inundating large tracts of country. Its greatest height is over 30 feet above the ordinary level.

The **Ganges** is held sacred by the Hindoos, and pilgrims come long distances to bathe in its waters. In courts of law, witnesses who believe in **Brahminism** are sometimes sworn by the waters of the **Ganges**.

The **Indus** is 1850 miles in length. It also enters the sea by various mouths, which enclose an extensive delta.

37. The rivers on the western slope of the eastern highlands, as well as some others in Asia, do not reach the ocean, but flow into inland seas or lakes, whose surplus waters are removed by evaporation. The chief rivers on this declivity are the *Amu-Daria* or *Oxus*, and the *Sir-Daria* or *Jaxartes*. The *Amu-Daria* rises in the table-land of Pamir.

38. The principal rivers of western Asia are, the *Euphrates*, *Tigris*, and *Jordan*.

The *Euphrates* has an entire length of 1750 miles. It rises near the Black Sea, and after approaching within 100 miles of the Mediterranean it turns to the south-east, and flows to the Persian Gulf. Its twin stream, the *Tigris*, is 1150 miles in length. The united river is called the *Shat-el-Arab*.

The *Euphrates* and *Tigris* flow through a region noted for its early civilization. Ancient Nineveh was on the *Tigris*; Babylon, on the *Euphrates*.

The *Jordan* is a small, winding stream, flowing southerly from the Mountains of Lebanon. It is noted for its low valley, and for its connection with numerous events in Bible history.

VIII. Lakes.—39. Asia has but two fresh-water lakes of large size—*Lake Baikal* and *Lake Balkash*, both of which are in the south of Siberia.

Baikal is nearly half as large as Lake Superior. It is about 400 miles in length, and 1280 feet above the sea-level. The lake is very deep, and is supposed to occupy the crater of an extinct volcano. Trade between Russia and China is carried on by steamers across the lake.

Lake Sir-i-kol, the source of the *Oxus*, on the table-land of Pamir, 15,600 feet above the sea, is the most elevated lake known.

40. The *Sea of Galilee*, an expansion of the *Jordan*, about 14 miles long, and 755 feet below the level of the ocean, is noted for its connection with many of the events in the life of our Saviour. It is also called the *Sea of Tiberias* and the *Lake of Genesareth*.

41. Salt lakes are very numerous in Asia, some of which are of great size. They have no outlet. The principal are, the *Caspian Sea*, the *Sea of Aral*, the *Dead Sea*, *Lake Van*, *Ooroomiah*, and *Tengri-Nor*.

42. The *Caspian Sea*, four and a half times larger than Lake Superior, is the largest lake in the world. Its surface is 84 feet below the ocean level. It receives the waters of the Volga and Ural rivers. The *Sea of Aral* is supposed to have been once connected with the *Caspian*, from which it is distant about 150 miles.

43. The *Dead Sea*, in Palestine, is 46 miles in length by 10 or 12 miles in breadth. Its surface is 1312 feet below that of the Mediterranean—the greatest depression known. Its shores are wild and desolate, and its waters are very salt.

IX. Soil.—44. The greater part of the northern slope is unfit for cultivation. The central highland region consists for the most part of barren deserts, pasture-lands destitute

of trees, and snow-covered mountains. The eastern and southern slopes are very fertile. The south-west, embracing Persia and Arabia, consists largely of deserts and pasture-lands.

X. Climate.—45. About three-fourths of Asia lie within the North Temperate Zone; the remainder is divided pretty equally between the Torrid and the North Frigid Zones.

In the north, including the greater part of Siberia, the winter comprises three-fourths of the year, and is intensely cold; the summer is hot. The central table-lands are cold in winter and hot in summer, and nearly destitute of rain, except on the mountains. The eastern slope is mild and moist.

46. South of the Himalaya Mountains the climate is hot and very humid. The year consists of a rainy season and a dry. During the dry season the ground is watered by heavy dews.

This portion of Asia lies within the region of the monsoons. When the sun is north of the Equator, the rainy monsoon blows from the ocean; and when the sun is south of the Equator, the dry monsoon blows from the interior. Violent storms occur at the change of the monsoons. (See *Physical Geography*, 125.)

XI. Minerals.—47. Many parts of Asia are rich in minerals.

Gold, iron, copper, and platinum are found in the Ural Mountains; gold, silver, iron, lead, and porphyries, in the Altai; diamonds and other precious stones, in India and Burmah; tin is found in the south-eastern peninsula; coal, in Asia Minor, India, China, and Japan; salt is abundant in many countries.

The *Koh-i-nür* ("mountain of light"), one of the most valuable diamonds in the world, was found in the year 1550 on the banks of the Godavery. It was long in the possession of native princes, but now belongs to the Sovereign of Great Britain.

XII. Plants.—48. The vegetation varies according to the temperature and humidity.

The south of Siberia is covered with forests of pines and firs, but a large part of this country is destitute of trees. Lichens and mosses are the chief vegetation of the north.

In the central table-lands the most important products are the grasses, which afford nourishment to numerous flocks and herds. There are forests upon the mountain slopes.

49. The northern part of the eastern slope, embracing Manchouria, yields the products of the Cold Temperate Zone; the southern part, or China, is in the Warm Temperate Zone, yielding rice, the tea plant, the mulberry tree, and cotton.

50. The regions south of the Himalayas—or the central

and eastern peninsulas, and the islands on the coast, embracing the countries called the *East Indies*—having a hot and moist climate, yield the finest products of the Torrid Zone in great abundance. Some of the most important products are rice, cotton, sugar-cane, coffee, opium, pepper, cloves, cinnamon, nutmegs, ginger, indigo, and fine fruits. The forests contain ornamental and dye woods, teak, the caout-

Arabia produces gums, spices, coffee, and tropical fruits.

XIII. **Animals.**—53. Asia surpasses the other great divisions of the Earth in the variety and size of its wild animals. It is also the native abode of the most useful animals. Most of the domestic animals of the civilized world have been derived from Asia, as the horse, ass, ox, goat, sheep, pig, cat, peacock, and barn-fowl.



THE BANYAN TREE.

chouc or india-rubber tree, the banyan tree, bamboo, and many species of palms.

51. The banyan is a remarkable tree. Its wide-spreading branches send out roots, which wave in the air until they have grown long enough to reach the ground, when they fix themselves in the soil, and become pillars of support. A single tree thus spreads over a large area, presenting the appearance of a grove.

The bamboo is a large hollow reed, growing from 50 to 80 feet high. Its stalk is used as a building material, and its leaves are made into ropes, sails, and many other things.

52. Persia, Asia Minor, and Syria are the native regions of many cultivated plants and flowers, including the grape, peach, pear, cherry, fig, melon, cucumber, rose, and tulip.

54. Fur-bearing animals, like those in the north of British America, abound in the north of Asia.

Cattle, horses, asses, and goats roam over the highland plains. The yak, a species of wild ox, and the Cashmere goat, are found on the table-lands of Tibet.

55. The largest and most formidable wild animals inhabit the forests south of the Himalayas. The most important are the elephant, rhinoceros, lion, tiger, hyena, orang-outang, crocodile, and large and venomous serpents.

The most important animals of the south-west are the camel, wild ass, antelope, and, among the birds, the ostrich, peacock, and bustard.

XIV. **Inhabitants.**—56. The number of the inhabitants is not accurately known. It is estimated at 800,000,000, or more than half of the human race. According to this estimate, Asia has an average of 47 inhabitants to the square mile.

57. The inhabitants of Asia belong to three of the five varieties of the human family. The Caucasian race occupies the south-west, extending east to the Brahmaputra, and north to the Himalaya and Hindoo Koosh Mountains and the Caspian Sea; the Malay occupies the Malay Peninsula and the islands to the south; and the Mongolian is spread over the remaining and much the larger portion of the continent.

58. The four principal religions of the world originated in Asia. Christianity, which had its birth-place in the west of Asia, has but few adherents in this great division of the Earth. Nearly all the inhabitants are heathens. Mohammedanism prevails among the inhabitants of the west; Brahminism among those of India; and Buddhism among the principal remaining portion, including more than half of the inhabitants of the continent. Brahminism and Buddhism inculcate many virtues, and also teach many absurd doctrines. Among the latter is the *transmigration of souls*, by which it is held that when a person dies, he is immediately born again, assuming some new kind of existence, either higher or lower than his previous life, according to his merit or demerit.

XV. **Divisions.**—59. Asia is usually divided into the following eleven divisions:—*Asiatic Russia, Turkestan, Asiatic Turkey, Arabia, Persia, Afghanistan, Beloochistan, British India, Indo-China or Further India, Empire of China, Japan.*

Some of the above divisions include several independent States. The French also own territory in India and Further India, and there are several small states in Further India.

TABULAR STATEMENT OF COUNTRIES OF ASIA.

Countries.	Area in Sq. Miles.	Population.	Capital.
ASIATIC RUSSIA	6,565,000	17,484,000	Tobolsk, &c.
ASIATIC TURKEY.....	730,000	17,000,000	Smyrna, &c.
ARABIA	950,000	7,300,000	Muscat, &c.
PERBIA	628,000	7,000,000	Tehran.
WEST TURKESTAN.....	300,000	3,000,000	Bokhara, &c.
EAST TURKESTAN.....	430,000	1,000,000	Yarkand.
AFGHANISTAN.....	279,000	4,000,000	Cabul.
BELOOCHISTAN.....	140,000	500,000	Kelat.
INDIA	1,378,000	267,000,000	Calcutta.
of the East } SIAM	250,000	6,000,000	Bangkok.
of the East } CAMBODIA, COCHIN-CHINA, ANAM, TONQUIN, } 350,000		25,000,000	Hué.
of the East } CHINESE EMPIRE.....	4,180,000	404,000,000	Pekin.
JAPAN.....	147,000	30,000,000	Tokio.

XVI. Towns.—60. Asia contains many large cities. In China there are said to be five cities having each a population of over a million.

Most of the cities of Asia are surrounded with walls of mud or of sun-dried brick. In the west, the houses of the wealthy are built of stone or of brick, and have flat roofs. They usually have no windows toward the street, but are built around an open space or court, from which they are lighted. In the east, the houses are low huts of mud or of bamboo. The streets of Asiatic cities are often so narrow and crooked that carriages cannot be driven through them.

Damascus, in Syria, is thought to be the oldest city in the world, having existed in the time of Abraham. (*See Genesis xv. 2.*)

61. South-western Asia contains many ruins of ancient cities. **Petra**, the ancient capital of Idumea, situated in a valley called Wady Mousa in the north-west of Arabia, is one of the most remarkable. Its remains consist of temples, houses, and tombs, cut out of solid rock of beautiful and varied colours. **Palmyra**, or **Tadmor** (*City of Palms*), on an oasis in the desert, 120 miles north-east of Damascus, was founded by King Solomon. Its remains comprise marble columns, gateways, aqueducts, and sepulchres. In the third century it was the capital of the celebrated Queen Zenobia. **Baalbec**, 43 miles north-west of Damascus, contains magnificent remains of ancient temples.

62. The ruins of **Nineveh**, the capital of ancient Assyria, extend many miles along the Tigris. For many centuries its remains were covered over with debris and earth, presenting the appearance of grassy mounds. Excavations were commenced in 1843, by M. Botta, the French consul; and the work has been more fully prosecuted by Mr. Layard, an English traveller. The explorations have resulted in the discovery of chambers of stone palaces, sculptures, inscriptions, and other remains. Many of these antiquities have been removed to the British Museum.

The ruins of **Babylon**, along the Euphrates, near the present town of Hillah, consist of large masses of brickwork and mounds. Its materials have been largely plundered for the construction of other cities. An immense mound, called Birs Nimrad, 200 feet in height, surmounted by a tower 37 feet in height, is supposed to be the remains of the Tower of Babel.

XVII. Industries.—63. The inhabitants of the north live principally by hunting and fishing; those of the arid plains of the interior and south-west are herdsmen; in other parts, agriculture is the chief occupation. Some of the

Asiatics excel in the manufacture of shawls, carpets, porcelain, lacquered ware, and carved ivory work. The manufactures are mostly performed by hand.

XVIII. Government.—64. The want of good government seriously affects the prosperity of most of the countries of Asia. Absolute despotism is the most common form.

China is the largest and most powerful of the independent states of Asia; Japan is the most progressive. Russia rules more than one-third of the territory of Asia, and Great Britain nearly one-third of the inhabitants.

In many countries of Asia there is no efficient central government. The inhabitants are divided into tribes, each yielding obedience to its chief. The roving herdsmen are generally lawless plunderers, freely appropriating any property possessed by those weaker than themselves.

EXERCISES ON THE MAP OF ASIA.

EXERCISE 1.—Point out the coast waters, capes, islands, mountains, rivers, lakes, and countries of Asia, and state their position.

EXERCISE 2.—Draw a map of Asia.

ASIATIC RUSSIA.

65. Russia first obtained possessions in Asia towards the end of the sixteenth century. She has continued to extend her bounds, until they now include more than one-third of the continent. Asiatic Russia comprises *Siberia, Caucasia, Armenia, and Russian Central Asia.*

The Asiatic territories acquired more recently by Russia are the Valley of the Amoor and Soongaria, taken from China; part of West Turkestan, and Trans-Caucasia, taken from Turkey. Additional territory was acquired in Armenia in 1878.

66. **Siberia** is divided into *West and East Siberia*. The whole country is for the most part a vast plain, sloping gradually to the Arctic Ocean. The western section is generally very level. The south-west consists of steppes, often barren and incrustated with salt, in other parts yielding herbage for the flocks and herds of the nomadic tribes. There are also some fertile agricultural districts, especially in the valley of the Yenisei. The central parts are covered with forests of birch, pine, and fir, which abound in various fur-bearing animals. The northern portion consists of low flats, called *tundras*, covered with moss and lichens. East Siberia is more rugged and elevated. It contains the *Stanovoi and Yablonoi Mountains.*

The great rivers of Siberia are, the *Obi, Yenisei, Lena, and Amoor*. The lakes are *Balkush and Baikal*.

67. The climate of Siberia is very severe, particularly in the north and east. The frost penetrates the ground to a

great depth, and throughout a large part of the country only two or three feet of the surface are thawed during the short summer. The valley of the Amoor is more temperate.

68. The **minerals** are important. The Ural Mountains contain gold, silver, platinum, quicksilver, copper, and precious stones.

69. Barley, rye, and vegetables are cultivated in the southern valleys. The valley of the Amoor is a fertile region, well adapted to agriculture. A fertile grain-producing country lies along the upper course of the Yenisei.

70. The **animals** include bears, wolves, beavers, and others valuable for their fur. The rivers and lakes abound in fish.

The reindeer is one of the most important animals of Siberia. With it harnessed to their sledges, the natives bound over the wintry snows. Its milk and flesh furnish food, and the skin is made into clothing and tents.



WINTER TRAVELLING IN SIBERIA.

71. The **inhabitants** of Siberia number about 5,000,000. The Russian Government has long used the country as a place of banishment for criminals and all kinds of political offenders. A large part of the population consists of exiles and their descendants. Many of the criminals are compelled to work in the mines.

The Samoyedes are a small-sized race inhabiting the northern shores. They subsist principally on fish and reindeer.

Towns.—72. **Omsk** (34,000), at the confluence of the Om and the Irtysh, and **Tomsk** (37,000), on the river Tom, are important cities on the trade route between China and European Russia. Tomsk has many soap and leather factories. **Tobolsk** (20,000) is the place to which exiles from Russia are sent before being distributed throughout the country.

73. **Irkutsk** (44,000), on the Angara, is the residence of the Governor-General of Eastern Siberia. It is situated on the route of trade between China and Russia. **Kiachta**, on the Chinese frontier, is the emporium of trade between the two countries. Tea, silk, and other goods are brought on camels from China, and exchanged for furs, leather, and woollens. **Maimatchin**, in China, is separated from Kiachta by neutral ground 280 yards in breadth.

74. The chief **industries** of Siberia are mining, hunting, fishing, and agriculture. Ivory of fossil elephants is obtained in large quantities along the shores of the Arctic Ocean, and forms an important article of commerce.

75. **Trans-Caucasia** and **Russian Armenia** are mountainous countries on the south of the Caucasus Mountains, between the Black Sea and the Caspian. **Elburz**, the highest peak of the Caucasus range, is over 18,000 feet high. **Mount Ararat**, an isolated peak in the south, is over 17,000 feet high.

76. Armenia is divided among three states—Russia, Turkey, and Persia—the three divisions meeting at Mount Ararat. The northern division belongs to Russia.

77. The greater part of Trans-Caucasia is a beautiful fertile country. Forests of oak and beech clothe the mountain slopes. Agriculture is greatly neglected. Among the fruits are grapes, peaches, figs, and apricots.

78. The **inhabitants** consist of various races. The *Circassians* are noted for their well-formed, athletic bodies.

Towns.—79. **Tiflis** (104,000), on the Kur, is the capital. It manufactures carpets, shawls, silks, and fire-arms, and has a large trade with Persia. **Kars** (12,000), on a plain 6000 feet above the sea, is noted for its heroic defence against the Russians in 1855, conducted by General Williams, a native of Nova Scotia. **Erivan** is a fortified town. **Baku** is noted for its naphtha wells. **Batoum** is a port on the Black Sea.

80. Ancient Colchis, celebrated for the fabled expedition of the Argonauts in search of the golden fleece, was situated along the eastern shores of the Black Sea.

81. **Russian Central Asia** is situated between the Caspian Sea on the west and the Chinese Empire on the east, and between Persia and Afghanistan on the south and Siberia on the north. Russia has gradually extended her power over this vast territory until, to a greater or less extent, she has brought the whole of it under her control.

The region includes *Turkestan*, the *States of Bokhara*, *Khiva*, and *Khokan*. Bokhara and Khiva are semi-independent States.

82. The territory comprises vast steppes in the west and north, too dry for agriculture, except where rivers afford means of irrigation. In the south-east, near the Hindoo Koosh and Thian Shan Mountains, are well-watered districts of great fertility. This fertile region is the most populous part of the country, and the chief seat of agriculture.

the residence of the
is situated on the route
achta, on the Chinese
between the two countries.
camels from China, and
Maimachin, in China,
and 290 yards in breadth.

are mining, hunting,
and the use of
elephants is ob-
served on the
shores of the Arctic
of commerce.

Alp mountains are mountain-
ous mountains, be-
Elburz, the highest
is over 17,000 feet

ates—Russia, Turkey,
Mount Ararat. The

Asia is a beautiful
which clothe the moun-
tains. Among the
tribes.

ous races. The *Cir-
cassians* are athletic bodies.

Yerevan, is the capital. It
is 6000 feet above the
level of the sea. The
Russians in 1855,
Nova Scotia. *Erivan*
is the capital. *Batoum*

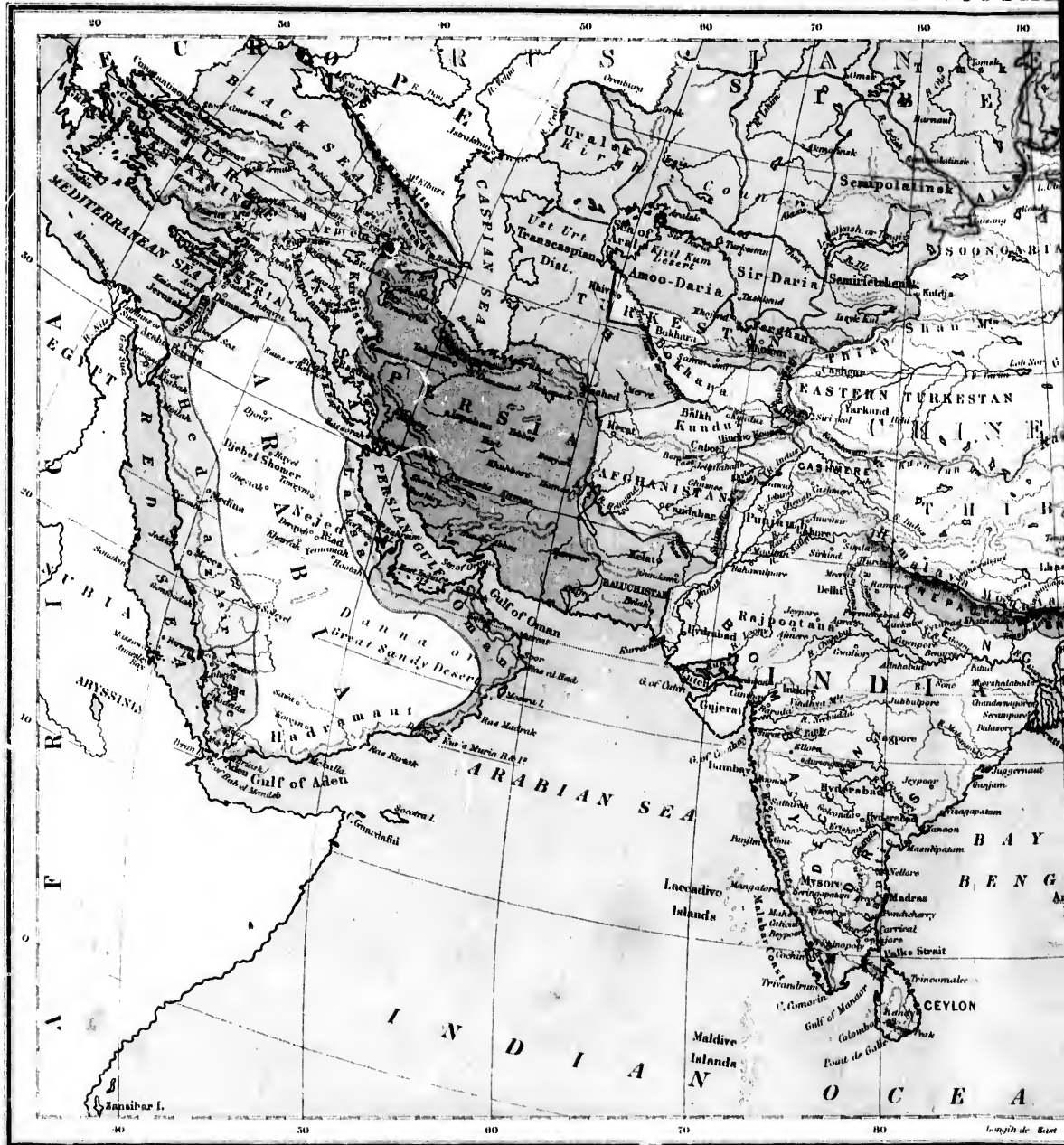
expedition of the Argonauts
to the eastern shores of the

located between the
Chinese Empire on the
north and the south
of the Indian Ocean
gradually extended
to a greater or less
degree under her control.

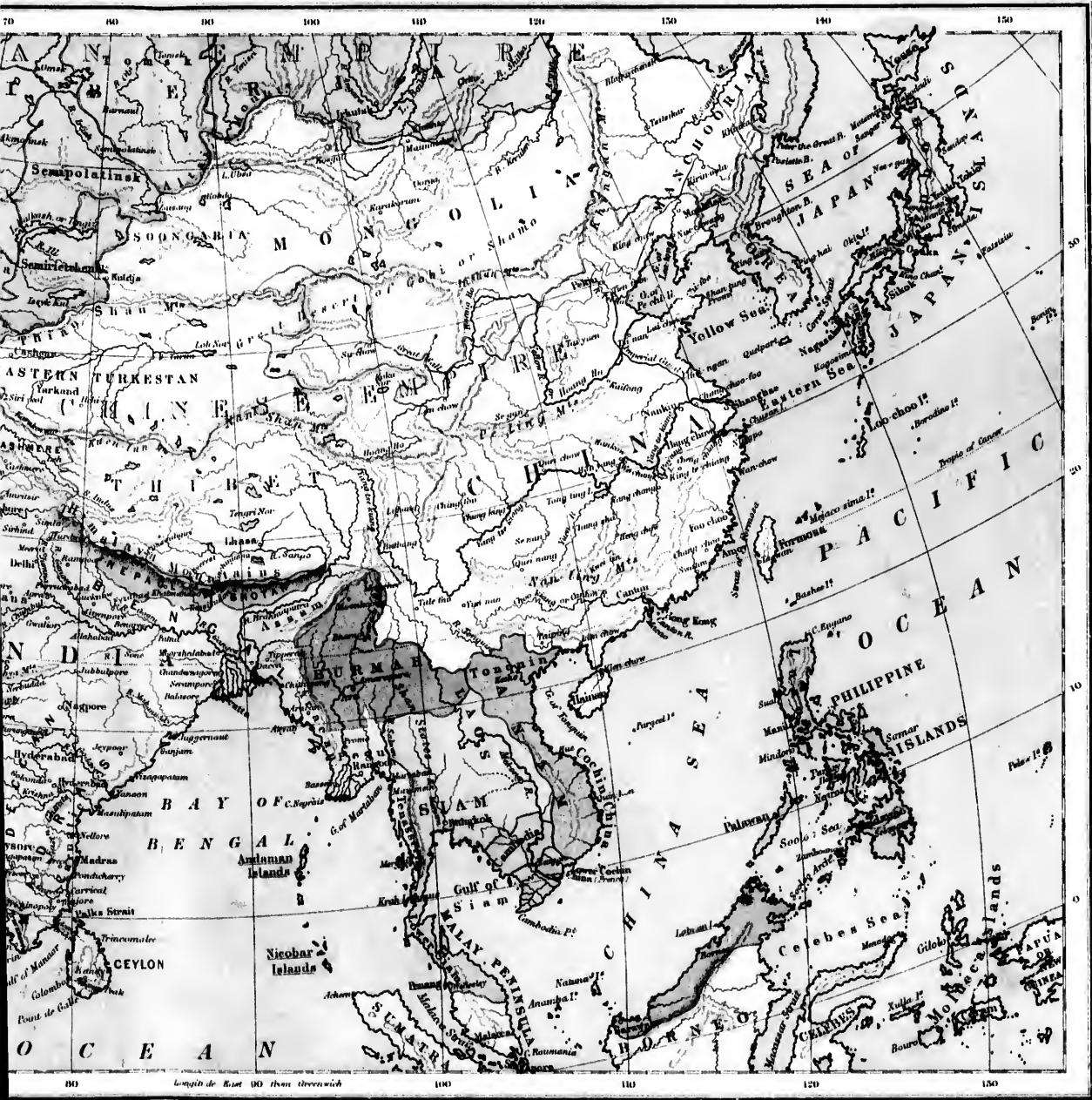
States of Bokhara,
and *Samarkand* are semi-inde-

pendent in the west and
where rivers afford
fertile soil near the Hindoo
well-watered dis-
trict is the most
fertile and chief seat of agri-

CENTRAL & SOUTHERN



English Miles
 200 100 0 100 200
 Scale of 506 Miles to an Inch.
 One Square Inch comprises 4621 times the Area of the



Longitude of East 100 from Greenwich

English Miles
 100 200 300 400 500
 Scale of 500 Miles to an Inch
 Square Inch comprises 4821 times the Area of the Sq. Inch of Sq. 1

sill
of
are
abc
of
the
cou
sell
I
rou
of
of
imp
Ta.
8
a sm
in a
(121
tow
(137
gov.



KIRGHIZ CAPTURING A WOLF.

83. The products are grain, cotton, flax, hemp, tobacco, silk, melons, apples, peaches, and other fruit. A large part of the country is better suited to grazing than to tillage.

84. The population consists of several races. The *Uzbeks* are the most important of those who have fixed places of abode. The nomads of the north are called *Kirghiz*, those of the west *Turcomans*. The latter are noted robbers, and they frequently make raids into Persia and other adjoining countries, carrying off defenceless inhabitants, whom they sell as slaves.

Mohammedanism is the principal religion.

Towns.—85. Many of the towns of Turkestan are surrounded by high mud walls. The houses are generally built of sun-dried bricks, and the streets are very narrow, some of them not more than three or four feet across. The most important towns belonging to Russia are, *Khiva*, *Khokan*, *Tashkend*, *Marghilan*, and *Samarcand*.

86. *Khiva*, situated in a fertile district watered by irrigation, is a small town, consisting chiefly of mud huts. *Khokan* is situated in a beautiful valley, and is surrounded by orchards. *Tashkend* (121,000) is an important commercial town. *Samarcand* is a small town, noted as the capital of the great empire ruled by Tamerlane (1370-1405), whose tomb it contains. *Marghilan* is the seat of government of Russian Turkestan.

87. *Bokhara* (70,000), the capital of the Khanate of Bokhara, is one of the largest cities in Turkestan. It is famed for its numerous mosques and Mohammedan schools. It has eighty colleges, in which little besides the Koran is taught. *Balkh* is a small town in the midst of the ruins of ancient Bactria, which cover a district 20 miles in circumference.

88. The wealth of the nomads of Turkestan consists in cattle, horses, camels, and sheep. The sheep have large fat tails. The manufactures include silks, cotton, thread, shagreen, jewellery, and fire-arms. The Turcoman women make beautiful carpets.

Russia has constructed a railway from the Caspian Sea to the borders of Persia, and thence by way of Bokhara to Samarcand. Steamers run from the terminus on the Caspian Sea to Baku in Trans-Caucasia. Cotton and other products of the country are thus transported to Russia.

ASIATIC TURKEY.

89. Turkey in Asia forms a part of the Turkish Empire, of which Constantinople in Europe is the capital. (*See European Turkey*, 427, 438.)

This portion of the world is peculiarly interesting. It is the theatre of the early history of the human race, the seat of the most ancient empires of the Earth, and embraces the countries in which most of the events recorded in the Bible occurred.

Various Turkish tribes from Central Asia conquered the country during the Middle Ages.

90. The Asiatic possessions of Turkey lie south of the Black Sea, and east of the Mediterranean and Red Seas, and include the following divisions:—

Asia Minor, part of *Armenia*, *Syria*, *Mesopotamia*, and the northern and western portions of *Arabia*; and *El-Hasa*, stretching along the west of the Persian Gulf.

ASIA MINOR AND ARMENIA.

91. Asia Minor, or *Anatolia*, consists of the peninsula between the Black Sea and the Mediterranean. The southwestern division of Armenia belongs to Turkey.

92. Asia Minor, or *Asia the Less*, contained several important ancient States, as *Lydia*, *Pontus*, and *Bithynia*. Ancient Troy, the overthrow of which by the Greeks is described by Homer, was in the north-west. The "Seven Churches of Asia" were also in Asia Minor.

93. On the west of Asia Minor are, the *Egean Sea*, the *Dardanelles*, the *Sea of Marmora*, and the *Strait of Constantinople*. The islands are, *Cyprus*, *Rhodes*, and others in the *Egean Sea*.

94. The interior is table-land, from 2500 to 5000 feet

high, and is generally characterized by scarcity of wood and water.

95. The **Taurus Mountains** extend along the south of Asia Minor. The rivers are of great historic interest.

The **Kizil-Irmak**, the ancient **Haly**, is the largest river of Asia Minor. The **Meander**, flowing into the **Aegean Sea**, is noted for its windings.

The **Euphrates** and **Tigris** have their origin in the mountains of Armenia; the **Kur**, with its tributary the **Araxes**, flows easterly to the Caspian. **Lake Van** is in the south of Armenia.

96. The **climate** on the coasts of Asia Minor, especially on the south, is mild, and the **vegetation** luxuriant. Among the products are olives, wine, silk, cotton, figs, and other fruit. The highlands of the interior are subject to extremes of heat and cold, and owing to the dryness of the climate, agriculture is practicable only through irrigation. Grazing is the chief industry. The Angora goat of the highlands yields a fine hair, which is made into shawls.

97. The **inhabitants** of Asia Minor are principally Mohammedan Turks. The trade is chiefly in the hands of Jews, Greeks, and Armenians.

Towns.—98. **Smyrna** (200,000), on the west coast, has a fine harbor, and is the largest and most commercial city. It is regarded as the birthplace of Homer.

Aidin, in the valley of the Meander, is connected by railroad with Smyrna, 61 miles distant.

Scutari (30,000), immediately opposite Constantinople, and **Brusa** (100,000), are important commercial cities.

Sinope and **Trebizond** are ports on the Black Sea. **Angora** is famed for its goats. **Tarsus** is noted as the birthplace of St. Paul. **Bodrum** occupies the site of ancient Halicarnassus, the birthplace of Herodotus. This town contained the celebrated tomb of Mausolus. **Konish**, the ancient Iconium, manufactures carpets, and has considerable trade. Meerschaum is obtained in its neighborhood.

99. **Erzeroum** (60,000), on an elevation of 6000 feet, is the largest and most commercial city of Armenia. The trade between the ports on the Black Sea and Northern Persia passes through this city. Erzeroum is also the halting-station for caravans between Mecca and Teheran.

100. The **exports** of Asia Minor include figs, raisins, galls, walnuts, valonia, wool, silk, cotton, olive oil, gums, opium, goats' hair, and skins. Various manufactured goods are imported.

SYRIA.

101. Syria is, historically, one of the most interesting countries in the world, embracing *Syria Proper* and *Palestine*. It was added to the Turkish Empire in 1517. It is situated south of the Taurus Mountains, between the Mediterranean and the Euphrates.

Ancient Phœnicia comprised the northern portion of the maritime country; the Land of Israel, the southern.

102. The **surface** of Syria consists of a narrow plain of varying width next the sea; the mountain ranges of Lebanon and Anti-Lebanon, near the west side, continued southerly by irregular hills and low mountains; and a vast plain on the east known as the Syrian Desert. Between the ranges of Lebanon and Anti-Lebanon is a beautiful valley, anciently called Coele Syria, or Hollow Syria, from which the *Litany* or *Leontes* flows south, and the *Orontes* north.

103. There are many very fertile tracts; but through want of cultivation, much soil that was once fruitful is now nearly barren. Excepting the cold heights of Lebanon, the climate is generally warm temperate. Want of rain is the chief natural defect of the country.

The **products** are grain, cotton, the mulberry, olives, grapes, figs, and other fruits. The mountains of Lebanon were once famed for their majestic cedars. Only a few of these ancient trees now remain.

104. The **inhabitants** are chiefly Turks, Arabs, and Greeks. The wandering Arabs of the desert are called Bedouins. They live by their flocks and by plunder. The insecurity of property occasioned by these robbers is a serious obstacle to the prosperity of the country.

105. The Maronites and Druses are two hostile communities inhabiting the Mountains of Lebanon. The former claim to be Christians, deriving their name and tenets from Maron, who lived in the fifth century. The Druses are heretical Mohammedans, originating with Hakim, an Egyptian who styled himself a prophet.

Towns.—106. **Damascus** (200,000) is about 50 miles from the Mediterranean, surrounded by a well-watered and fertile plain clothed with orchards. It was formerly famed for its sword-blades. Travellers speak of the distant view of the city as most enchanting. The manufactures and trade of Damascus are much less important than formerly.

107. **Beirut** (60,000), in a beautiful situation at the foot of Mount Lebanon, is the chief port of Syria. It is 55 miles from Damascus, with which it is connected by a macadamized road. It has regular communication with Marseilles and Liverpool. It exports madder, wool, silk, and olive oil, and imports cottons, cutlery, and other manufactures.

108. **Aleppo** (120,000), noted for the beautiful gardens in its immediate neighborhood, is situated in the midst of a rocky desert. It has a large trade in cottons, silks, skins, oil, and tobacco. Aleppo was laid in ruins by an earthquake in 1822, and 20,000 inhabitants lost their lives.

109. **Antioch**, on the Orontes, was formerly a populous and beautiful city. It is now a small place of little note. Here the disciples were first called Christians.

Tripoli (30,000) is an important port. It is noted for beautiful gardens. Sponges, fruits, oil, and soap are exported.

Acre (10,000) is a small sea-port, marking the southern limit of ancient Phœnicia. It is noted for its numerous sieges.

Tyre and **Aidin**, the chief cities of Phœnicia, are represented by the small towns **Soor** and **Saida**.

Hamah (30,000) and **Homs** (15,000), on the Orontes, are important towns.

110. Agriculture and the care of flocks are the chief pursuits in Syria. Manufactures are greatly neglected. Commerce is impeded through want of roads. Merchandise is conveyed on the backs of mules and camels.

narrow plain of
ages of Lebanon
ued southerly
vast plain on
een the ranges
alley, anciently
n the *Litany* or

ugh want of cul-
y nearly barren.
ate is generally
ral defect of the

ves, grapes, figs,
o once famed for
cient trees now

os, and Greeks.
inus. They live
f property occa-
rosperity of the

unities inhabiting
ristians, deriving
th century. The
kim, an Egyptian

miles from the
nd fertile plain
ts sword-blades.
most enchanting.
a less important

at the foot of
65 miles from
mized road. It
Liverpool. It
nports cottons,

ens in its imme-
cky desert. It
bacco. Aleppo
000 inhabitants

ulous and beau-
ere the disciples

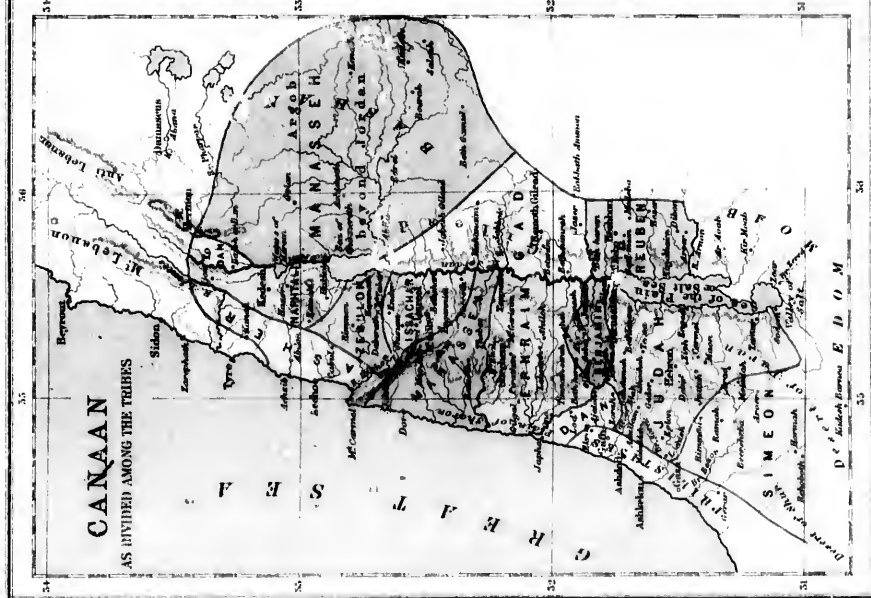
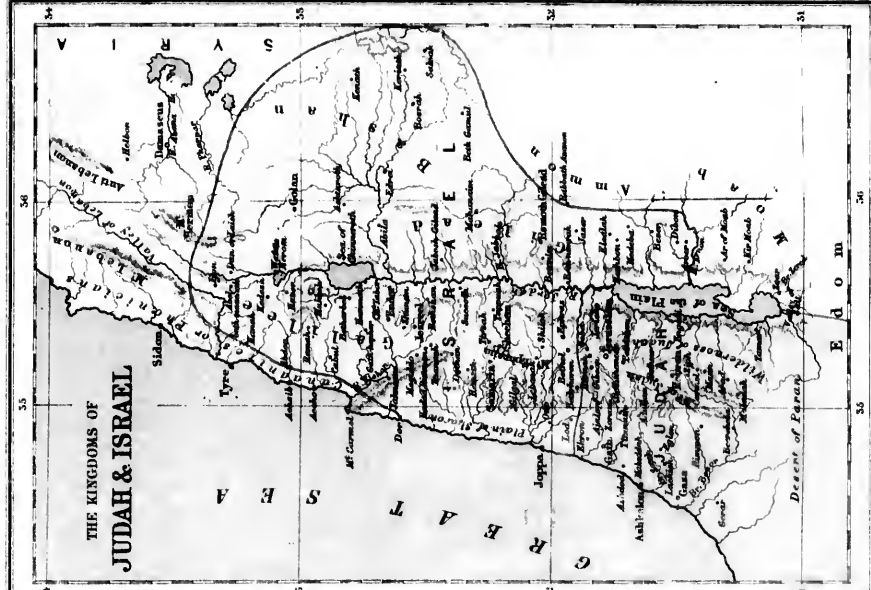
d for beautiful
l.

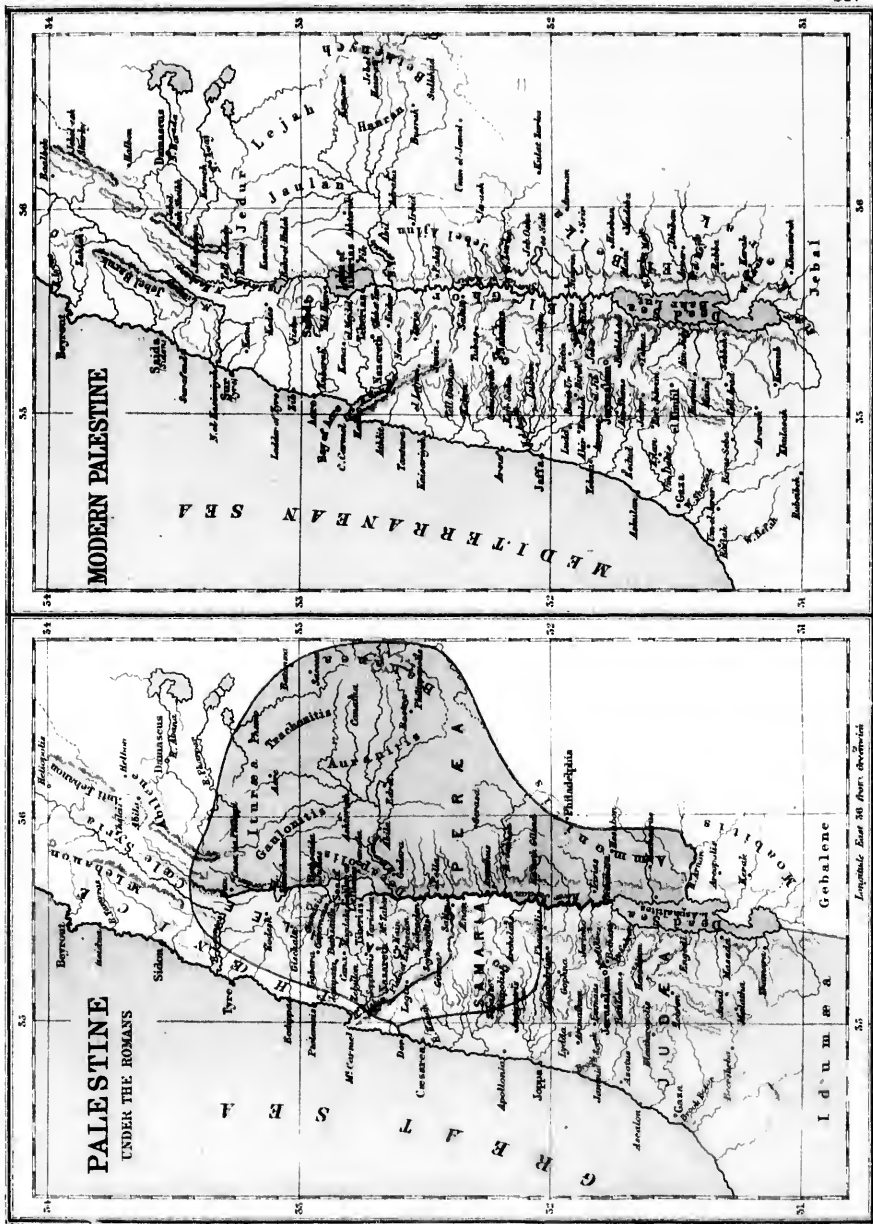
uthern limit of
res.

represented by

, are important

are the chief
ly neglected.
Merchandise





I
and
var
II
and
was
Maj
In
and
Isra
II
inhe
Othe
quen
In
whe
pern
Pers
II
It th
of S
his s
Mac
Jos
II
63 B
and
was
TH
Titu
terec



LAKE OF TIBERIAS.

PALESTINE.

111. Palestine is now the most common name of the ancient Land of Israel. The country has been known by various other names, as *Canaan*, and the *Holy Land*.

112. The Israelites, under Joshua, entered the Land of Promise and dispossessed the original inhabitants in 1452 B.C. The country was then apportioned amongst the various tribes, as shown on the Map of *Canaan*. (See *Joshua* i.-xix.)

In 975 B.C. the country was divided into the kingdoms of Judah and Israel, as shown by the Map of the *Kingdoms of Judah and Israel*. (See *1 Kings* xii.)

113. In 721 B.C. the kingdom of Israel was broken up, and the inhabitants carried into captivity, by Shalmaneser, King of Assyria. Other inhabitants were placed in the country, who were subsequently called Samaritans. (See *2 Kings* xvii.)

In 606 B.C. the inhabitants of Judah were carried to Babylon, where they spent a captivity of seventy years. In 536 they were permitted to return to their own land, by Cyrus, King of the Persians. (See *Ezra* i.)

114. Palestine became subject to Alexander the Great, 333 B.C. It then fell to the Ptolemies of Egypt, and afterwards to Antiochus of Syria. The inhabitants were cruelly treated by the latter and his successors; from whose power a family of patriots called the Maccabees, after hard struggles, delivered their country. (See *Josephus*.)

115. The Romans annexed Palestine to their great empire about 63 B.C., and divided it into four provinces, *Judea*, *Samaria*, *Galilee*, and *Perea* (as in the Map of *Palestine under the Romans*). This was the condition of the country in the time of our Lord.

The Jews having rebelled against the Romans, an army under Titus destroyed their capital, Jerusalem, and mercilessly slaughtered thousands of the inhabitants, 70 A.D. From this time the

Jews have been scattered over the whole world, and their ancient land has been occupied by other people.

116. Palestine fell a prey to the Mohammedans in the year 636. The persecutions to which Christian pilgrims were subjected in the Middle Ages roused the indignation of the Christian powers of Europe, and vast armies were sent to rescue the Holy Land from the Mohammedans. The expeditions sent for this purpose, known in history as the Crusades, had a temporary success; but eventually the country again fell under the Mohammedans. It became a part of the Turkish Empire in 1517.

117. Palestine is situated on the east of the Mediterranean, and south of the Mountains of Lebanon. It is about two-thirds the size of Nova Scotia. Its length from north to south is about 200 miles, and the breadth 100 miles.

118. The **surface** of Palestine is a rugged table-land, varied with irregular mountains and low plains. The highlands are divided into two districts by the valley of the Jordan, the most remarkable depression known. Lowlands from ten to fifteen miles in breadth lie along the coast of the Mediterranean. In the south this coast district is called the *Plain of Philistia*; farther north is the *Plain of Sharon*, terminated at the north by Mount Carmel. The **Plain of Esdraelon**, the battle-field of Palestine, extends across the country from the foot of Carmel at the Mediterranean to the valley of the Jordan, separating the highlands of Samaria from those of Galilee. The rocks are chiefly limestone, and the country abounds in caves, to which frequent reference is made in the Scriptures.

119. At the extrema north of Palestine is *Mount Hermon*, which rises to the height of 9380 feet. The other important peaks are *Safed*, *Tabor*, *Gerizim*, and the *Mount of Olives*. The *Mountains of Moab* are on the east of the Jordan.

120. The rivers are, the *Jordan*, flowing from the Mountains of Lebanon southerly through lakes *Merom* and *Tiberias* into the *Dead Sea*, and the *Kishon* in the Plain of Esdraelon. The *Jordan*, including its windings, is about 200 miles long.

121. The soil of Palestine was once very fertile. The hill-sides, carefully terraced, were clothed with vineyards and olive groves, and the valleys with grain. The terraces are now broken down, and the rains of centuries have washed away the soil, leaving nothing but the gray rocks. Some of the valleys and plains are yet very fruitful; the Plain of Philistia is especially noted for its fertility. The heat of summer is not intense, except in the valleys. The winters are mild. Scarcity of rain is the worst feature in the climate.

122. The products are grain of various kinds, olives, grapes, figs, pomegranates, and other fruits. Large trees



OLIVE TREE, FLOWER, AND FRUIT.

are almost unknown in Palestine. The most important are terebinths, a few aged oaks, and an occasional palm.

Wild flowers are profuse in spring, especially a white flower called the Star of Bethlehem, and scarlet anemones, tulips, and poppies.

123. The inhabitants include many races. Nearly all are Mohammedans. The Jewish population is estimated at 10,000. The settled inhabitants live in villages and towns.

Lawless shepherds, called *Bedouins*, wander over the country, plundering the defenceless who fall in their way.

Towns.—124. *Jerusalem* (28,000), the capital, is situated on the edge of a rocky plateau, 30 miles from the Mediterranean, and 13 miles from the Dead Sea. Its site, 2550 feet above the level of the Mediterranean, and 3800 above the Dead Sea, has deep ravines on all sides except the north-west,—the Valley of Gihon on the west, Hinnom on the south, and Jehoshaphat or Kidron on the east. It is also divided into two ridges,—Mount Zion on the west, and Mount Moriah on the east. The Mount of Olives is on the east of the city, beyond the Valley of Kidron. The most important building in the city is the *Mosque of Omar*, on the site of the ancient Temple. The streets are rough and narrow, the widest not exceeding ten feet in breadth, and frequently the houses project over the street. Waggons are never brought within the city. The city is surrounded by a wall, and has four principal gates,—*Jaffa Gate*, *Damascus Gate*, *St. Stephen's Gate*, and *Zion Gate*.

125. *Bethlehem* (4000), six miles south of Jerusalem, is the city of David, and the birthplace of our Saviour. It contains a large monastery, built over a cave called the "Cave of the Nativity."

Bethany is a small village two miles from Jerusalem, on the eastern slope of the Mount of Olives.

Hebron (10,000), 16 miles south of Jerusalem, is noted for the cave of Machpelah, where Abraham was buried. The Mohammedans have built a large mosque over the cave, which they hold in great veneration.

126. *Jaffa* (12,000), the ancient Joppa, was the principal port of the Jews. Its harbor is small and insecure. Its exports are soap, grain, and fruit. The city is noted for its extensive and fruitful gardens, which are irrigated from wells.

Gaza (15,000) is in the south-west. It trades largely in soap, which is sent to Egypt on camels.

Nazareth (3000), north of Mount Tabor, is noted as the place where our Saviour spent the greater part of his life on earth.

Nablous (8000), the ancient Shechem, is in a fertile valley, clothed with fruit trees, between Mounts Ebal and Gerizim. (*Judges ix. 7-21.*)

Safed (5000), elevated 2650 feet, was utterly destroyed by an earthquake in 1837.

127. On the east of the Jordan are many ancient towns and ruins, as *Bathsanyeh*, *Kunawât*, *Bozrah*, *Salcal*, and *Edrei*, built of massive hewn rock. Some of them have a few inhabitants; others, deserted by man, are the home of wild beasts. (*See Porter's Giant Cities of Bashan*, and *Deut. iii.*)

128. The only carriage road in Palestine is that from Jaffa to Jerusalem, and it is very rocky and steep. The pathway from Jerusalem to the Jordan is still more steep and rocky, and travellers require the protection of an armed guide as a defence against robbers.

ARABIA.

129. Arabia, according to some, signifies a *waste*, expressing the prevailing physical character of the country;



BETHLEHEM.

according to others, it comes from a word signifying a *wanderer*, in allusion to the habits of many of its inhabitants. Its history is interesting. The forty years' wanderings of the Israelites were in the north-west.

Mohammedanism originated in the west of Arabia early in the seventh century, and for several centuries Mohammedan Arabs ruled all Western Asia, Northern Africa, and Spain.

130. The coasts of Arabia are generally low and sandy; the interior consists principally of a high plateau, bordered with low mountain ranges. A ridge extending southerly from Palestine, terminates in the rocky peaks of *Horeb* (8593 feet) and *Sinai*. Parched deserts cover the greater part of the interior. There are no large streams.

131. Many parts along the coast are very fertile, and the deserts are interspersed with fertile oases. The heat of the low coasts is intense; on the table-lands it is more temperate.

A large part of Arabia is within the rainless region extending from the west coast of Africa to the east of Asia. In other portions, rainy and dry seasons alternate. Here the water-courses during one season present rushing torrents, and during the other dry rocky channels, called *wadys*.

132. A hot, suffocating, and injurious wind, called the *simoom*, often blows from the desert. It is of short duration, and to escape its effects the inhabitants cover their faces and lie prostrate. The camel also kneels down and buries its nose in the sand.

133. There are **no extensive forests** in Arabia. The most valuable trees are the *date* and other species of palms, gum acacias, and balsam trees. The deserts produce succulent grasses, and a little plant called *samh*, which bears a small red seed; the former nourish numerous flocks and herds; while the latter, with dates, gives food to the wandering Arab.

The cultivated **products** are coffee, cotton, indigo, tobacco, millet, spices, and tropical fruits. The cultivated districts require irrigation.

134. Wild **animals** are not numerous. The deserts abound with wild asses and ostriches. The domestic animals are horses, camels, dromedaries, sheep, and goats. The horses of Arabia are famed for beauty and fleetness.

135. The **inhabitants** consist of two classes,—those who live a settled life, and the wandering tribes, or *Bedouins*, who scorn being tied to any fixed abode.

The Arabs are the most unprogressive people in the world, their customs and modes of life to-day being little changed from those that prevailed centuries ago. They are divided into tribes, and have a kind of patriarchal government, the head of the tribe being styled *emir* or *sheik*.

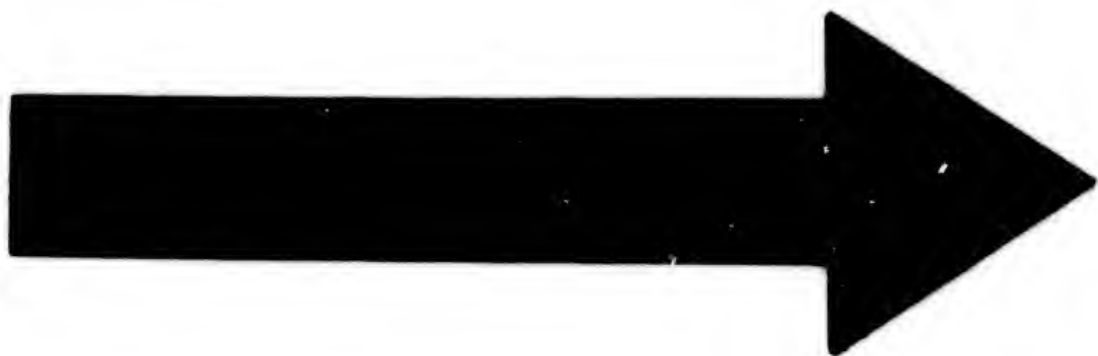
136. Arabia includes several political divisions with no very precise limits. The principal are, *Hedjaz*, *Yemen*, *Oman*, and *Nejed*.

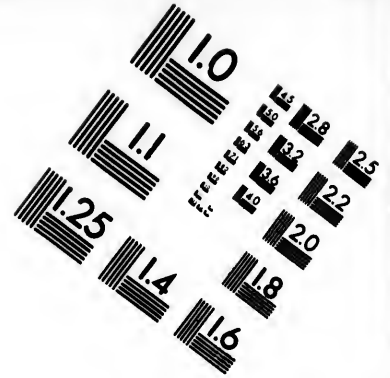
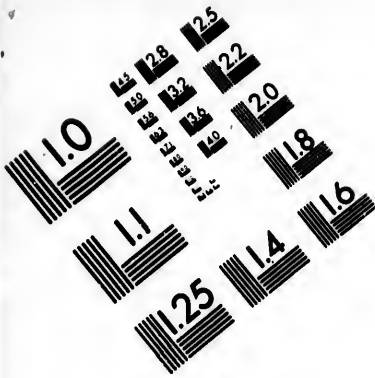
137. **Hedjaz**, or "the Land of Pilgrimage," embracing the greater portion of the coast on the Red Sea, belongs to Turkey.

Mecca (45,000), the capital, 51 miles from the sea, is in a desert region. It is noted as the birthplace of Mohammed (570 A.D.). Mohammedans regard it as a holy city, and all are required to visit it at least once in their lives. Consequently the city swarms with pilgrims, who generally, combining trade with religion, carry merchandise to sell on their route. **Jedda**, on the Red Sea, is the port of Mecca. **Medina** (15,000), 250 miles north of Mecca, and 130 miles from the coast, contains the tombs of Mohammed, his daughter Fatima, and of the caliphs Abubeker and Omar.

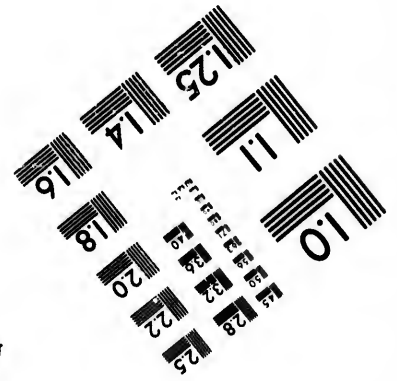
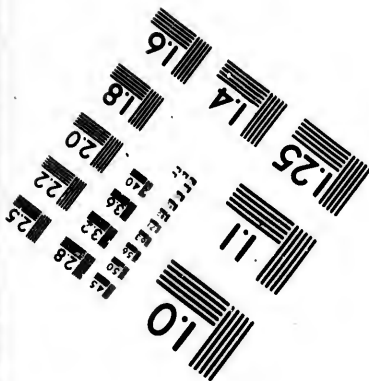
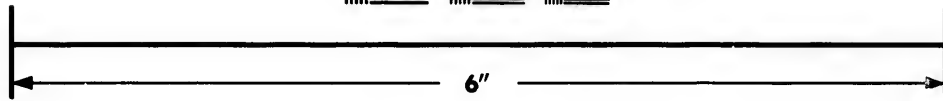
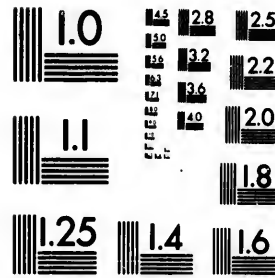
138. **Yemen**, also belonging to Turkey, is in the south-west. It produces the finest coffee in the world, and is also noted for myrrh and other gums.

Sana (50,000), the capital, in a beautiful inland valley, has an extensive trade in coffee. **Mocha** (6000) is a fortified port on the





**IMAGE EVALUATION
TEST TARGET (MT-3)**



**Photographic
Sciences
Corporation**

23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503

0
15 28 25
12 13 22
10 20
118
16

10
11
12
13
14
15
16

Red Sea. It gives its name to the best coffee, which, with dates and gums, is largely exported.

139. **Aden** is a small peninsula in the south-west, belonging to Great Britain, having an area of about eight square miles.

The city **Aden** (22,000) stands in a hollow enclosed with rocky cliffs. It is very strongly fortified, and is an important coaling station for steamers. The coal is brought in vessels from England.

140. **Oman** is a maritime district in the south-east. It is subject to the Imam or Sultan of Muscat, whose territories embrace portions of the coast of Persia and Eastern Africa.

Muscat (60,000), the capital, is an important port on the Gulf of Ormuz. It exports hides, horses, dates, coffee, and pearls.

141. **Nejed** is an extensive country in the interior, ruled by the Wahabees. Its horses are said to be much superior to those of other parts of Arabia. Their owners are greatly attached to them, and refuse to sell them.

Scattered through this region are numerous oases covered with date palms, which are so valuable in desert countries.

PERSIA.

142. Persia was among the earliest civilized countries of the world. It retains but little of its former importance. In the early part of the present century it was forced to cede to Russia extensive territories west of the Caspian.

Cyrus, who died 529 B.C., was the founder of the Medo-Persian Empire, the most powerful monarchy in the world up to that time. This ancient empire was conquered by Alexander the Great, 333 B.C.

143. Persia is situated between the Caspian Sea and the Persian Gulf. The greater part of the country is a level table-land, 3000 feet high, bordered on the north, south-west, and south by mountain ranges. The *Elburz Mountains*, on the north, have their greatest elevation in *Mount Demavend* (21,500 feet).

144. About three-fourths of Persia, comprising nearly all the central and eastern portion, consist of an irreclaimable salt desert. The country near the Persian Gulf is hot, arid, and unhealthy. The streams are few and small, and are either absorbed by the desert or flow into salt lakes.

145. Some parts of Persia are exceedingly fruitful. The country between the Elburz Mountains and the Caspian Sea and the southern slope of the Elburz is said to be "as beautiful as wood, water, and a hot climate can make them."

146. The products are wheat, barley, millet, rice, tobacco, cotton, opium, sugar-cane, the vine, silk, oranges, and other fruits.

The date, fig, pomegranate, almond, and peach are said to be indigenous to Persia.

Roses are extensively cultivated for the otto of roses.

147. Horses, camels, sheep, and goats are reared in large numbers. The wool is of superior quality.

148. The inhabitants comprise various races. Those living a settled life are mostly descendants of the ancient Persians. The nomads form the majority, including four different races, of which the Turcoman is the most numerous.

Mohammedanism is the established and prevailing religion.

Towns.—149. The principal cities are, *Teheran, Isfahan, Tabriz, Bushire, Hamadan, Meshed, Yezd, and Balfrush.*

The houses in the cities of Persia are generally of one story, are built of mud, and have no windows on the street, but the interior is often very elegant. At short intervals along the narrow streets are doors in the mud walls leading to the court-yards.

150. **Teheran** (210,000), the capital, is 70 miles south of the Caspian. During the intense heat of summer, the city is abandoned by the court and the wealthy inhabitants.

Isfahan (60,000) is situated on a fertile plain. Its manufactures are gold brocades, velvets, and fire-arms.

Tabriz (165,000) is an important commercial and manufacturing city. **Meshed** is the holy city of a Mohammedan sect.

Bushire is an important sea-port on the Persian Gulf. **Hamadan** is the ancient Ecbatana. The ruins of **Persepolis** indicate the greatness of the ancient capital of Persia. **Balfrush, Meshed, and Yezd** are large cities. **Shiraz** is noted for its rose gardens, vineyards, and nightingales.

151. The principal manufactures are silks, carpets, shawls, cottons, gold and silver brocades, otto of roses, cutlery, and leather.

The trade is chiefly with Russia, by way of the Caspian Sea; Great Britain, by way of the Black Sea; and British India, by way of the Persian Gulf. British manufactures are extensively imported through Trebizond, on the Black Sea. Internal trade is carried on by caravans of mules and camels. The chief exports are dried fruits, opium, cotton, wool, silk, and pearls.

152. The government of Persia is a despotism. The chief ruler, who is called the *Shah*, has absolute power over the lives and property of his subjects.

The governors of the various provinces exercise nearly absolute power over those under them. The principal checks against unjust government are insurrection, conspiracy, and revenge.

AFGHANISTAN.

153. Afghanistan is situated to the south of Turkestan, from which it is separated in part by the River Oxus. British India is on the east, Beloochistan on the south, and Persia on the west.

154. Afghanistan, or *Afghan-land*, has been the scene of fierce wars. In 1839 the British sent an army into the country to restore the rightful sovereign, who had been driven from the throne by a usurper. In 1842 three thousand eight hundred British troops

and twelve thousand camp-followers were massacred by the natives. A British army invaded the country in 1879, in consequence of an insult offered a British embassy. A settlement of the difficulty was soon effected; but the massacre of the British resident and his suite at Cabul, shortly after, led to renewed hostilities. When the British had avenged this outrage, they withdrew from the country.

155. The **surface** consists of high table-land, traversed by lofty mountain ridges and deep valleys. Extensive sandy deserts occupy the south and west. The *Hindoo Koosh* Mountains separate the district of the Oxus and the southern portion of the country. The *Soliman Mountains* form a barrier wall between Afghanistan and India. The mountains are cleft by deep ravines or passes.

156. The **Bamian Pass**, in the Hindoo Koosh, is remarkable for its colossal figures and cave-houses sculptured from the rocks. The **Khyber Pass**, leading to Hindostan, is about 30 miles in length, often very narrow, and enclosed with high cliffs. This pass was the scene of the massacre of the British in 1842.

157. Many favored sections along the river-valleys are very fertile. The heat of summer in the valleys and lowlands is intense; the winters in the highlands are very severe.

The **products** are rice, cotton, sugar-cane, millet, corn, grapes, oranges, and other fruits. The date-palm grows in the deserts.

The chief beasts of burden are camels and dromedaries. The sheep have fat tails, weighing 10 or 12 pounds.

The Afghans are a powerfully made and warlike people, resembling the Jews in features. Their religion is Mohammedanism.

Towns.—158. **Cabul** (65,000), the capital and largest city, is 6400 feet above the level of the sea, and is overlooked by lofty heights of the Hindoo Koosh. The orchards in its neighborhood produce fine fruits. The outbreak against the British in 1841 began in Cabul.

Ghuznee was the capital of a great empire in the eleventh century. **Jelalabad** is noted for its defence by the British in 1842.

Herat (50,000) has extensive manufactures in wool and leather. Much of the caravan trade between Eastern and Western Asia passes through Herat.

Candahar, a fortified city, is said to have been founded by Alexander the Great. It is intersected by canals, by which the gardens and orchards are irrigated. Considerable trade between Persia and India is carried on through Candahar.

159. The **chief trade** is with India, China, Persia, Turkestan, and Russia, conducted by caravans. The **exports** are asafoetida, tobacco, fruits, carpets, shawls, and horses. Various manufactured goods are imported.

160. The **chief ruler** of Afghanistan is styled the *Ameer*.

The position of Afghanistan between the Russian territory on the north and British India gives the country great importance in the estimation of Russia and Great Britain, and makes these Powers jealous of each other's influence over the Ameer.

BELOOCHISTAN.

161. Beloochistan, or *Land of the Beloochees*, is bounded on the north by Afghanistan; on the east by India; on the south by the Arabian Sea; and on the west by Persia.

162. Alexander the Great, with his army, passed through the southern part of the country on his return from India, 325 B.C. Thousands of his men perished in the *Desert of Gedrosia*, from fatigue and thirst.

163. The general **surface**, especially towards the north, is mountainous and broken by deep valleys. There are extensive deserts. The coast country, called *Mekran*, is arid and excessively hot. The river-valleys are fertile.

164. The **Bolan Pass** is a narrow defile about 60 miles in length, on the route through Beloochistan from the Lower Indus to Afghanistan. Extreme height, 5800 feet. A railway, connecting Beloochistan with British India, crosses this pass.

165. The **products** are wheat and various kinds of grain, rice, sugar, cotton, indigo, and tobacco. The date-palm grows on the borders of the deserts.

The pastures are poor. Sheep and goats are numerous. The dromedary is the most common beast of burden.

166. The **inhabitants** are Mohammedans, and comprise various nomadic tribes of rapacious and plundering habits.

167. **Kelat** (12,000), the chief town, is on an elevation 6000 feet above the sea, and is strongly fortified. The houses are built of mud. It was taken by the British in 1839. A caravan trade is carried on between this town and India.

168. The **exports** are wool, dried fruits, tobacco, and dates. The principal **imports** are British and Indian manufactures.

The north-east is subject to the Khan of Kelat, who is largely under British influence. In other parts of the country the various tribes own no authority but that of their respective chiefs.

Beloochistan is regarded as a dependent state of British India.

BRITISH INDIA.

169. This vast country comprises the central peninsula of Asia, extending from the Himalayas to the Indian Ocean, including also Burma on the east. It has long been celebrated for the richness of its vegetable products, its large wild animals, its beautiful manufactures, and the wealth of its native princes.

170. The power of Great Britain in India originated with the British East India Company, organized with exclusive privileges in the year 1600. In 1689 the Company acquired its first territory, consisting of about five miles of coast where Madras now stands. Other possessions were soon acquired, large warehouses called factories were erected, and the prosperous trade was extended.



THE HIMALAYAS.

171. A large part of the country was at that time included in the Mōgul Empire, which had been established in 1525. The chief ruler was known as the Great Mogul. His empire was divided into provinces ruled by deputies called Nabobs, and the provinces were divided into districts governed by officers called Rajahs.

172. In 1686, the agent of the East India Company and a number of men in his employ were sailing down the Hoogly river, having been expelled from a factory on the river by the Nabob of Bengal. Exhausted with the burning heat, they landed near a small village, and took refuge beneath a large tree which attracted them with its friendly shade. Pleased with the situation, they resolved to form a new settlement: Accordingly a grant was obtained of a small territory, and factories were erected, which have since expanded into the populous and wealthy Calcutta, the capital of British India.

173. In 1756, Calcutta was captured and plundered by the Nabob Suraja Dowlah. Many of the English were taken prisoners, and thrust into a close room called the *Black Hole*, where most of them perished in a single night from breathing the impure air. Calcutta was retaken in 1757 by the distinguished Clive. In the same year Clive checked the power of France in India by the battle of Plassey.

174. British power now advanced rapidly; nor was it always by the most just and honorable means. Native princes were conquered and their treasures plundered; others, alarmed, poured out to the victors their diamonds and gold, as the price of peace and protection. The Mogul Empire was broken up by internal dissen-

sions, and portion after portion was annexed to the British territories. The first Governor-General was Warren Hastings, appointed in 1773.

175. In 1833 the Company's monopoly was withdrawn, and the country was thrown open to general commerce. The Indian Mutiny, a rebellion of the native troops called *Sepoys*, which began in 1857, presents many tales of savage butchery and outrage. On the restoration of peace, the government of India was transferred from the Company to the British Crown. In 1877 Queen Victoria assumed the title of *Empress of India*.

176. About half of India, or the triangular peninsula, is in the Torrid Zone. It has the Bay of Bengal on the east, the Arabian Sea on the west. *Cape Comorin* is the southern point.

British India extends about 1900 miles north and south, by 2000 miles east and west, and includes an area over one-third that of the Dominion of Canada. The coast line is about 4000 miles in length. The east coast is sometimes called the *Carnatic*; the south-eastern coast is called the *Coromandel Coast*; the south-western, the *Malabar Coast*.

177. The surface in the northern half of the country is greatly diversified. On the north are the gigantic and unrivalled *Himalayas*, peak rising above peak far beyond the

line of perpetual snow. The lower ridges are often enveloped in clouds, on which the higher summits, projected against the blue sky, seem to rest. (*See Asia*, 27.)

178. South of the elevated region are vast plains, comprising two general slopes—the basin of the *Ganges* inclined to the south-east, and the basin of the *Indus* to the south-west. The former slope is much the more extensive.

179. The greater part of the peninsula is an elevated tableland called the *Deccan*, which is bordered by mountain ranges,—the *Vindhya* on the north, the low *Eastern Ghauts* on the east, and the elevated *Western Ghauts* on the west. The general slope of the Deccan is easterly.

180. The principal rivers of Northern India are, the *Ganges*, *Brahmaputra*, and *Indus*, with their tributaries. Most of the important cities of India are on these rivers.

The *Indus*, *Sutlej*, *Ravee*, *Chenab*, and *Jelum*, give the name of *Punjab*, or *Five Rivers*, to the country through which they flow. The principal rivers of the Deccan are, the *Mahanuddy*, *Godavery*, *Krishna*, and *Cauvery*, on the east; and the *Nerbuddah* on the west. Many of the rivers are unnavigable on account of the rapidity of their current. (*See Asia*, 36.)

181. The soil is generally very fertile, especially the plains of the *Ganges* and the *Punjab*.

The alluvial plains of the *Ganges* are exceedingly rich and well cultivated, sustaining a dense population. South of the *Punjab* is the *Indian Desert*, 400 miles long and 100 miles in breadth.

182. The climate is tropical, excepting in the highlands, where there is every variety of temperature according to the elevation. The year includes three seasons,—the hot, from March to June; the rainy, from June to October; and the temperate, during the remainder of the year. The rainy season is occasioned by the excessive moisture of the south-west monsoon.

183. The minerals are iron, coal, tin, copper, gold, diamonds, rubies, amethysts, and other precious stones.

184. The vegetation varies from the tropical profusion of the moist lowlands to the alpine plants of the higher mountain slopes.

Among the trees are teak, sandal-wood, ebony, bamboo, banyan, and many species of palms. At the height of 11,000 feet the trees are dwarfed; and the region of perpetual snow is found at the height of 15,000 feet. The low region, called the *Sunderbunds*, near the mouth of the *Ganges*, is covered with almost impenetrable thickets.

185. The agricultural products include rice, cotton, jute, silk, sugar-cane, opium, indigo, maize, wheat, millet, coffee, tea, and various kinds of fruit.

186. Rice is the chief article of food in India. Tea is extensively cultivated in Assam. The cinchona, introduced from South America, yields a valuable product. India ranks next to the

United States as a cotton-producing country. Opium is one of the most important products. Other leading products are wheat, millet, and oil-seeds, as sesale, linseed, and castor-oil.

187. Wild animals are numerous, including the elephant, rhinoceros, buffalo, tiger, panther, leopard, and many others. Tiger hunting in the jungles or thickets of the *Sunderbunds* is a dangerous and exciting sport. The elephant is often tamed and used as a beast of burden.

188. The inhabitants number over 267,000,000, or about seven times the population of the British Isles. The European portion of the population, chiefly of British origin, numbers about 90,000. Nearly three-fourths of the inhabitants are Hindoos. There are many Mohammedans, especially in Bengal and the *Punjab*. Buddhism has many votaries in Burma, Assam, Bhotan, and Ceylon.

The religion of the Hindoos is a superstitious and cruel pagan system. They worship imaginary gods, as *Brahma* and *Vishnu*; also the *Ganges* and various animals. The British Government has prohibited many of their horrible practices. Formerly it was customary when a man died to burn his widow on a funeral pile; and women threw their children into the *Ganges*, believing that they would thus please their god.

An important feature of Hindooism is the division of the people into four castes,—the Brahmins or priests, holding the highest rank, the soldiers, the merchants, and the common laborers. The castes are not allowed to intermarry or even eat together, and no one can rise above the station in which he was born.

Divisions.—189. The British Empire in India is made up of two classes of states:—

- (1.) *Those that are under the direct control of the British Government*, embracing nearly three-fourths the whole territory.
- (2.) *The Native States*, governed by native chiefs, who acknowledge allegiance and pay tribute to the British Government.

190. **British India** is divided into the following eight Provinces:—

Bengal, the North-West Provinces, the Punjab, the Central Provinces, Bombay, Madras, Burma, and Assam.

191. **Bengal** lies along the lower course of the *Ganges*. The **North-West Provinces** are on the north-west of Bengal, along the Upper *Ganges*. The **Punjab** embraces the upper waters of the *Indus*. The **Central Provinces** are on the south-west of Bengal. The **Province of Bombay** is situated along the Lower *Indus* and the Arabian Sea. It has excellent harbors. The **Province of Madras** is situated along the Bay of Bengal, and in the south of the peninsula. With a coast-line of over 1700 miles, it does not possess a good natural harbor. **Assam** embraces the country along the middle course of the *Brahmaputra*. It is the most noted tea-growing district in India. **Burma** extends easterly from Assam and the Bay of Bengal to the borders of China.

192. The former kingdom of Burma was annexed to the British possessions in 1886, and now forms a part of British India. The *Irrawaddy* is a great commercial highway of the country. Its delta is a rich rice-growing district. *Bhamo*, at the head of navigation, 700 miles from the sea, has rich mines of ruby and jade. The other leading products are teak, rubber, and petroleum.

Towns.—193. British India has sixty towns with a population of more than 50,000. The eight largest are *Calcutta* (870,000), *Bombay* (773,000), *Madras* (406,000), *Lucknow* (361,000), *Benares* (200,000), *Patna* (170,000), *Delhi* (173,000), *Hyderabad* (355,000).

194. *Calcutta*, the capital of the Province of Bengal and of the British Empire in India, is situated on the Hoogly, 100 miles from its mouth. It is strongly fortified, and is a great commercial city. It has many churches, mosques, Hindoo temples, and pagodas. The part of the city occupied by Europeans has magnificent public buildings and fine dwellings; but many of the houses of the natives are built of mud or of bamboo, covered with mats.

Moorshedabad, on a branch of the Ganges, has a large trade. *Serampore* is a noted mission-station, 14 miles north of Calcutta. *Patna*, on the Ganges, has an extensive trade in rice, opium, and indigo.

195. *Allahabad* (148,000), the capital of the North-West Provinces, is situated at the junction of the Ganges and the Jumna. It is thronged with pilgrims, who come here to bathe in the waters of the sacred river.

Benares, on the Ganges, has important cotton, silk, and woollen manufactures, and has a large trade in shawls, muslins, and diamonds. It is accounted by the Hindoos the most holy city in the world. Within the city are about 300 mosques and 1000 pagodas. The city is visited by crowds of pilgrims, many of whom come to die within its precincts. Huge Brahmim bulls, regarded as sacred by the Hindoos, roam at will through the streets.

Agra (160,000), on the Jumna, is an important city. It was for over one hundred years the capital of the Mogul Empire. It is noted for a beautiful mausoleum of white marble. *Cawnpore* (151,000), on the Ganges, is noted for the massacre of the English in 1857 by Nana Saib. *Furruckabad* (62,000), on the Ganges, is an important commercial city. *Lucknow*, on a tributary of the Ganges, is noted for its defence under General Havelock against the sepoys during the mutiny, and the final relief of the garrison by Sir Colin Campbell.

196. *Lahore* (149,000), the capital of the Punjab, is a fortified city. *Mooltan* (68,000), an important commercial and manufacturing city, is noted for its ruins of ancient cities that occupied the same site. *Amritsar* (152,000) is a wealthy and prosperous city, with extensive trade and manufactures of cottons, silks, and shawls. It is the sacred city of the Sikhs, and is visited by many pilgrims. *Peshawur* is a fortified town, near the entrance to the Khyber Pass. *Delhi*, on a branch of the Jumna, was once a magnificent city, many monuments of which it still retains. The heir of the Mogul resided here as a pensioner until the close of the late rebellion, when he was banished for his share in the mutiny. *Meerut* (100,000) is noted as the place where the mutiny began in 1857. *Rampoor* (74,000) is a mud-built town. *Hurdwar*, on the Ganges, is a sacred city, and is noted for its great annual fair, attended by 250,000 traders and pilgrims.

197. *Nagpore* (98,000), the capital of the Central Provinces, is situated in a swampy, unhealthy district. Most of its inhabitants live in thatched mud-huts. The manufactures consist of silks, cottons, and articles in copper and brass.

198. *Bombay*, the capital of the Province of Bombay, is situated on a small island of the same name. It is strongly

fortified, has a superior harbor, and carries on an immense trade with Great Britain by way of the Suez Canal. Its exports are cotton, shawls, opium, coffee, pepper, ivory, and gums.

The island of *Elephanta*, celebrated for its cave-temples cut out of solid rock, is seven miles from Bombay. *Surat* (113,000) is noted as the place where the East India Company erected its first commercial establishment. *Ahmedabad* (127,000) was once considered the finest city in Hindostan. It has splendid and richly ornamented temples and mosques. *Pocnah* (129,000) has many visitors in the rainy season, on account of its healthful climate. *Hyderabad*, near the Indus, is the chief city of Sind, and has important manufactures. *Kurrachi* is a sea-port of Sind.

199. *Madras*, on the Coromandel coast, is the capital of the Province of Madras. It is situated on a surt-beaten shore, without a harbor. Large vessels lie in the roadstead, between which and the shore goods and passengers are conveyed in boats. During a storm it is impossible to land, and vessels are obliged to run for the open sea. *Madras* has a very large trade, exporting coffee, rice, and cotton.

Tanjore (54,000), 180 miles south of Madras, has silk and cotton manufactures. It is noted for its great pagoda or heathen temple. *Trichinopoly* (84,000) is also a manufacturing town and a military station.

Arcoot was the former capital of the Carnatic. *Calcut*, on the Malabar coast, was the first port visited by Vasco de Gama in 1498. It was formerly noted for its calicoes and for its great commerce.

200. *Rangoon* (134,000) is an important port in L. na. It exports rice, teak-timber, cotton, ivory, and shellac. *Rangoon* is noted for its pagodas, temples, and images. *Moulmein*, on the Gulf of Martaban, is a healthy and prosperous city. The houses of the natives are built of bamboo, thatched with palm-leaves. *Martaban* is a small place near Moulmein. *Mergui* is a port on Mergui Island.

201. *Gowhati*, on the Brahmaputra, is the principal town in Assam. *Mandalay* is the capital of Burma.

202. The chief pursuits in Hindostan are agriculture and manufactures. The Hindoos excel in the manufacture of shawls, carpets, silks, and muslins.

The chief exports are cotton, wheat, rice, opium, indigo, jute, tea, coffee, wool, pepper, ivory, silk, and shawls. Various manufactured goods are imported. Cotton goods form a large proportion of the imports. More than half the foreign trade is with Great Britain. The opium trade with China is very important.

203. *Railways* intersect the country, connecting nearly all the large cities. Over 16,000 miles are now in operation.

Government.—204. *The Supreme Government of India* is vested in the *Viceroy* or *Governor-General*, assisted by a Council of six members.

In addition to the ordinary members of Council, the Commander-in-chief is member extraordinary. The laws are made by a Legislative Council, consisting of the Executive Council and twelve additional members. The government of British India is under the general oversight of a member of the British Cabinet, who is styled *Secretary of State for India*.

Each province has a lieutenant-governor and a council to manage its local affairs. The provinces of Madras and Bombay have less connection with the central government at Calcutta than the other provinces.

206. The revenue is about \$282,000,000. The army comprises about 72,000 European troops and 152,000 native soldiers.

NATIVE STATES OF INDIA.

206. The Native States of India—that is, the states ruled by native princes—include over one-fourth of the whole country. They number about eight hundred in all, but many of them are very small, only about two hundred being of any importance. They are usually classed as *Dependent States*, governed by princes more or less subject to British control, and *Independent States*.

DEPENDENT STATES.

207. **Cashmere** consists of an elevated valley of the Himalayas, 5500 feet above the sea, and the surrounding mountain slopes. The valley is about the size of Prince Edward Island. The high mountain walls surrounding the country have but few passes, and none that will admit wheeled vehicles. The valley of the Jhelum is the only practicable road into the country during the winter. The fields are watered by irrigation. Rice is an important product. The inhabitants number about 200,000. They are skilled in the manufacture of shawls, leather, and otto of roses.

Srinagar (40,000), the capital, has a beautiful situation on the Jhelum.

208. **Hyderabad**, or the *Nizam's Dominions*, occupying a central portion of the Deccan, has an area of about 90,000 square miles. It has a deep black soil adapted to the growth of cotton. It was formerly famed for diamonds.

Hyderabad (200,000) is the capital. **Golconda** is a small place where diamonds were cut and polished. **Aurungabad** (60,000), the favorite residence of Aurungzebe, the last Mogul Emperor, contains many mosques. **Ellora** has remarkable cave-temples.

209. **Indore**, or the *Holkar's Dominions*, lies north of the Vindhya Mountains. **Gwallor** is a neighboring state.

Rajpootana includes a number of states on the east of Sind. A large part of the country is desert.

210. **Cochin** and **Travancore** are fertile states along the south-west coast of the peninsula.

Mysore, the former dominion of Hyder Ali and his son Tippoo Saib, is under direct British control.

211. **Gujerat** is a large and fertile state north of the Gulf of Cambay. Cotton is the staple product. The climate is unhealthy.

Cutch is a peninsula on the north of the Gulf of Cutch. On the north and east is a low region called the *Rann*, covered by the ocean during the south-west monsoon; at other times it is dry.

Baroda (140,000) is a large commercial city in Gujerat. **Cambay** has lost much of its former importance.

INDEPENDENT STATES.

212. **Nepaul**, situated on the southern slope of the Himalayas, has an area nearly equal to that of England and Wales. The population is about 2,000,000. The surface is varied, embracing some of the loftiest peaks of the Himalayas, broken by deep valleys.

Katmandoo (50,000) is the capital.

213. **Bhotan**, on the southern slope of the Himalayas and west of

Assam, has an area of about 16,800 square miles. It is a rugged, mountainous country. The religion is Buddhism.

214. The **French Possessions** in India are, *Chandernagore*, on the Hoogly; *Yanaon*, at the mouth of the Godavery; *Pondicherry*; *Karikal*; and *Mahé*.

215. The **Portuguese Possessions** are, *Goa*, *Daman*, and the *Island of Diu*, on the west coast.

CEYLON.

216. Ceylon is an important island on the south-west of Hindostan, from which it is separated by the Gulf of Manaar and Palk's Strait. The distance from the mainland is about 60 miles.

217. Ceylon was ceded to Great Britain in 1802, by the Dutch, who had, about one hundred and fifty years previously, taken it from the Portuguese.

218. The island has an area of 25,364 square miles. The surface consists chiefly of undulating plains of great fertility, varied with mountains from 6000 to 8000 feet high.

219. The **climate** is more agreeable than on the mainland, the heat being less intense. The **soil** is very fertile.

220. The **vegetation** of Ceylon is very luxuriant. There are several species of palm, including the cocoa-palm. Satinwood and many other kinds of timber-trees abound in the forests. The underwood includes many kinds of flowering shrubs, and the trees are richly festooned with climbing plants and epiphytes.

221. The **agricultural products** include rice, cocoa-nuts, tea, coffee, cinnamon, tobacco, and tropical fruit.

222. Ceylon has long been celebrated for its **rich gems**, among which are sapphires, rubies, garnets, and amethysts. The pearl-fishery in the Gulf of Manaar has also yielded great wealth.

223. The **wild animals** include the elephant, deer, humped ox, and wild boar. There are many kinds of birds, some of which are noted for their beautiful plumage, others for the richness of their song. Crocodiles are numerous.

224. The **inhabitants** are of various races. The greater number are called *Singhalese*. Some of the natives of the interior are very degraded, living in the jungles, and sleeping in caves and hollow trees. The total population is about 2,000,000.

225. **Colombo** (110,000) is the capital. **Trincomalee**, on the east coast, has a superior harbor. **Kandy**, in the interior, is the ancient capital.

INDO-CHINA,

OR, FURTHER INDIA.

226. This great country comprises the eastern peninsula of Asia between the Bay of Bengal and the China Sea, and includes several political divisions. The interior is not well known.

The narrow Malay Peninsula approaches nearly to the Equator.

227. The whole country has a southerly slope. The principal rivers are, the *Irrawaddy*, *Salween*, *Meinam*, and *Mekong* or *Cambodia*. These rivers are of great importance as grand highways through the country; they also abound in fish. Many of the inhabitants, in their floating houses, live entirely upon the rivers.

228. The climate resembles that of British India, but is more humid. The north-east monsoon brings rain to the east coast, the south-west monsoon to the west coast. The eastern coast is subject to a violent wind called the *typhoon*.

229. The vegetation is very luxuriant. The forests yield teak, ebony, rose-wood, sandal-wood, eagle-wood, bamboo, ratan, betel-nuts, gutta-percha, gamboge, and india-rubber. There are many kinds of palms.

230. The agricultural products are rice, cotton, indigo, tea, sugar, tobacco, cinnamon, and silk. The fruits include bananas, mangoes, and bread-fruit. The agricultural resources are poorly developed.

231. Wild animals are numerous, including the elephant, tiger, leopard, rhinoceros, buffalo, India-ox, deer, boar, crocodile, and various kinds of monkeys. The rivers and coasts abound in excellent fish.

232. The inhabitants of the Malay Peninsula are of the Malay race, and are generally Mohammedans. The Mongolian race and Buddhism prevail throughout the rest of the country. Pagodas, or idol temples, are numerous, and religious festivals are observed with great display and ceremony.

233. The chief political divisions of Indo-China are, the *British Possessions*, *Siam*, the *French Possessions*, and a few small native states.

The *British Possessions* comprise *Burma* and the *Straits Settlements*. The *French Possessions* include *Cochin-China*, *Cambodia*, *Anam*, and *Tonquin*.

234. The *Independent States* occupy the interior, the chief of which are the *Shan States*, in the mountainous regions of the north bordering on China.

235. The *Straits Settlements* comprise *Malacca*, in the south of the Malay Peninsula; *Province Wellesley*, on the west coast; and the neighboring islands *Singapore* and *Penang*. The whole territory forms a Crown colony. Several adjoining native states are under British protection.

236. *Malacca* is a low, swampy district, having a population of about 90,000. Its tin-mines are among the richest in the world. Its agricultural products include rice, sugar, tapioca, and pepper.

237. *Province Wellesley* is a small maritime district, about 45 miles in length. Its products are rice, sugar, tapioca, and pepper.

238. *Singapore*, situated in the Strait of *Malacca*, about three-fourths of a mile from the mainland, has an area of 206 square miles, and a population of about 121,000, two-thirds of which are Chinese.

The town of *Singapore* (100,000), the capital of the *Straits Settlements*, has an excellent harbor, and is strongly fortified.

It is a port of call for steamers passing through the strait. It is the most important commercial town in Indo-China. Its docks are always crowded with shipping.

239. *Penang* is a beautiful and fertile island, separated by a narrow strait from *Province Wellesley*, having an area of 107 square miles. The population, including *Wellesley*, is about 170,000.

Georgetown (25,000) is the principal town.

SIAM.—240. This country, situated on the north and west of the Gulf of *Siam*, and east of *Burma*, is in size about one-half larger than the *Province of Quebec*. The population is variously estimated from six to eleven millions.

241. The *Meinam* is sometimes called the *Nile* of *Siam*, because, like the *Nile*, it annually overflows its banks, and leaves a rich deposit of mud. The *Mekong*, a much larger river, flows along the eastern border.

242. The *Siamese* are fond of music, rich dress, and ornament. They cut off all their hair except a tuft on the top of the head. They are given to ceremony, and crouch and crawl upon the ground in the presence of their superiors. They regard white elephants with superstitious reverence.

The country is well-watered and fertile, but badly cultivated. The principal products are rice (the chief food), spices, and teak-wood, of which large quantities are exported.

243. *Bankok* (from 400,000 to 600,000), on the *Meinam*, about 20 miles from its mouth, is the capital. About half the inhabitants are Chinese, who carry on most of the trade.

On account of inundations from the river, the houses are raised on piles six or eight feet from the ground. Many of the inhabitants live upon the river in floating houses made of bamboo and palm leaves. The palace of the king is very large, and richly adorned with gold, silver, and precious stones. It furnishes accommodation for the numerous wives of the king, a large number of soldiers, and the white elephant.

244. Under the constitution of 1874, the king is assisted in his duties by a Supreme Council of State.

245. The *French Province of Cochin-China*, occupying the delta of the *Mekong*, is a well-watered, fertile country. A large portion of the land is protected from inundation by dikes, which are said to be on a much larger scale than those of *Holland*. The chief product is rice, which forms a large proportion of the exports of the country.

246. The population of the country is estimated at about 2,000,000, of which 2000 are Europeans and 50,000 Chinese.

247. *Saigon*, the capital, is a strongly-fortified port. It is connected by rail with *Mytho*, on one of the main arms of the *Mekong*.

248. *Cambodia*, principally under French control, is a flat fertile country on the lower basin of the *Mekong River*, above the delta. The products are rice, cotton, betel, tobacco, and indigo. The estimated population is from 1,500,000 to 1,800,000. It contains a large lake, 100 miles in length, swarming with fish.

249. The country contains magnificent ruins of a former civilization, including cities and temples. One of the most remarkable of these is a temple called *Angkor Wat*.

250. *Fuempeng*, the principal town, has considerable trade with Saigon.

251. *Tonquin*, situated on the west of the Gulf of Tonquin, became a French possession in 1884. The products are rice, indigo, cotton, sugar-cane, fruit, and tobacco. The minerals are copper, iron, and coal.

252. The population of Tonquin is estimated at 9,000,000, of which about 400,000 are Roman Catholics.

253. *Hanoi*, the capital, is strongly fortified, and its streets are paved with marble.

254. *Anam*, on the east of the Gulf of Tonquin, is a French Protectorate. The chief products are cereals, cinnamon, cotton, sugar, tea, coffee, and tobacco. Rice and fish form the principal food of the people. The population is estimated at from 2,000,000 to 5,000,000.

255. *Hue*, the capital, is a fortified town on the coast. The citadel is occupied by French troops.

THE CHINESE EMPIRE.

256. China is the most important native state on the continent of Asia. It has a history extending back many centuries before the Christian era, and it can boast of an earlier civilization than any other existing nation. But in modern times the country has made little progress in science and art, and has been far surpassed by the nations of Europe.

257. China has experienced many revolutions and changes of dynasty. Kublai Khan, the great Mongolian conqueror, became master of the country near the close of the thirteenth century. Marco Polo, a celebrated Venetian traveller, spent seventeen years at his court, and on his return gave to Europe the first authentic account of China.

The Manchoo Tartars conquered China in the seventeenth century, and established the present dynasty. In recent times bands of insurgents, called *Taepings*, endeavored to establish a new government; but they were finally suppressed in 1865.

258. To protect themselves from invasion by the Tartars, the Chinese, about 220 B.C., built a **great wall** along their northern frontier. This wall, which has been accounted one of the wonders of the world, is about 1400 miles in length. It is made of earth faced with stone and brick, varies in height from 15 feet on the mountains to 80 feet on the plains, and has a thickness of 25 feet at the base, and 15 feet at the top.

259. The Chinese Empire embraces over one-fourth of Asia, and includes more than one-fourth of the inhabitants of the world. The Empire consists of *China Proper*, *Tibet*, *East Turkestan* or *Kashgaria*, *Mongolia*, *Manchooria*, *Sun-garia*, and *Corea*.

CHINA PROPER.

260. China Proper is the most important division of the empire. It is situated in the warm temperate region of the eastern slope of Asia.

261. The **surface** is varied. In general the west is mountainous, the south-east is hilly, and the north-east consists of a great plain. The **rivers** are magnificent. Besides many smaller streams, it has two of the largest rivers in the world, the *Hoang-ho* and the *Yang-tse-kiang*.

262. The *Hoang-ho* drains a territory equal to about one-fifth the Dominion of Canada. The *Yang-tse-kiang* drains a still larger area, and is better suited to navigation. It flows through a very fertile and populous country, and has many large cities on its banks. It is navigable for large ships 900 miles, and for small vessels 1500 miles.

263. The **soil** is exceedingly fertile, and is cultivated with great care.

In order to add dignity to agriculture, the Emperor, attended by his officers of state, at a grand annual festival, ploughs a furrow and sows some seed; and in each province the governor performs a like ceremony.

264. The **agricultural products** are millet, rice, tea, silk, sugar-cane, tobacco, maize, wheat, and fruits of tropical and temperate climes. The cocoa-nut and other kinds of palm, and the bamboo, flourish in the south.

Tea is cultivated principally on the hill slopes in the north of China. The shrub grows from twenty to thirty feet high, but under cultivation it is only about one-fourth of that height. The peculiar flavor of tea is developed by the drying and roasting to which the leaves are subjected.

265. The **inhabitants** of China belong to the Mongolian race. They have less muscular strength than Europeans; and the women are of small size, and have small feet, caused by compression in youth.

The Chinese show great respect to old age, and they are noted for ancestor-worship. Tablets inscribed with the names of their forefathers are carefully kept, and used in religious service. In their social life the Chinese are excessively polite, and press upon a visitor things which it would be very uncourteous for him to accept. Their women are treated little better than slaves.

Schools and books are numerous in China, and many of the sciences are studied. The Chinese language is very ancient, and difficult to foreigners. The written language has a distinct character for every word.

The Chinese were acquainted with the use of the mariner's compass, the arts of making gunpowder, paper, and porcelain, with silk-weaving and printing, long before the Europeans.

The majority of the people are Buddhists, and pagodas or *idol* temples are numerous; but much liberty is allowed in religious matters.

266. **Buddhism**, introduced into China from India, has long been the prevailing religion of the masses of the people; but it is said to be declining, and its temples are falling into decay. The **educated classes** are believers in

the doctrines of Confucius, who lived about five hundred years before the Christian era.

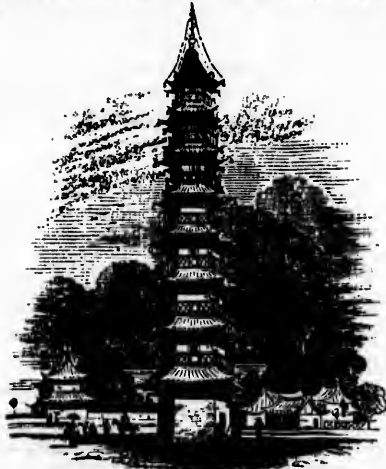
The principles taught by Confucius do not recognize a personal God as the Creator and Governor of the world; but they inculcate many important virtues, as industry, sobriety, and modesty, and they enjoin the necessity of universal education and the duty of filial obedience to the emperor.

Towns.—267. China has many large cities. Their population is not accurately known. The population of Peking is variously estimated from 500,000 to 1,650,000.

268. **Peking**, the capital, situated 100 miles from the sea, is surrounded by a high, thick wall, and is divided into two parts,—the *Northern* or *Tartar City*, and the *Southern* or *Chinese City*. The two divisions are separated by a wall. The northern city contains the imperial palace, the residences of the nobles, temples, government offices, and extensive pleasure-grounds. The southern city is occupied by traders and business men. **Tien-tsin** (950,000), the port of Peking, is noted for the treaty signed here in 1858 between Great Britain and China.

269. **Canton** (1,600,000), on the Pearl River, 70 miles from the sea, is a great commercial city, exporting tea, silk, and other products. A large number of the inhabitants live in boats on the river.

Nankin (150,000), on the Yang-tse-kiang, is noted for its manufactures of silk and nankeen cloth. The Taeping insurgents cap-



PORCELAIN TOWER AT NANKIN.

tured the city in 1853, put many of the inhabitants to death, and destroyed the celebrated Porcelain Tower, and a large portion of the city.

Ningpo (250,000) and **Swatow** are the headquarters of Protestant missions. **Hang-chow**, at the south end of the Imperial Canal, is noted for the manufacture of silks.

270. **Shanghai** (355,000), **Ningpo**, **Foo-chow** (630,000), **Amoy**, and **Canton** are the chief ports for foreign commerce. **Hankow** (775,000), on the Yang-tse-kiang, 600 miles from the sea, is a great river-port, from which large cargoes of tea are exported.

271. Agriculture and manufacturing are the principal occupations, and are conducted with great care and skill.

The Chinese excel in the manufacture of porcelain (often called *china-ware*), silk, nankeens, embroidery, lacquered ware, and carved ivory work.

The chief exports are tea, silks, and various manufactured goods. The imports are iron, steel, glass, opium, cottons, woollens, and ale.

Internal commerce is promoted by the rivers and numerous canals. The Imperial Canal, extending from Hang-chow northerly, 650 miles, is the longest canal in the world.

272. The government is an absolute despotism. The army is very large, but quite ineffective when opposed to a European force.

FORMOSA AND HAINAN.

273. These islands, on the east coast of Asia, belong to China.

Formosa has an area of about 16,000 square miles, and a population of 2,000,000. It yields rice, sugar, pine-apples, cinnamon, and other tropical products. The eastern part of the island is occupied by independent savage tribes. Hainan has nearly the same area, and yields similar products.

HONG KONG.

274. This island, situated at the mouth of the Canton or Pearl River, was ceded to Great Britain by China in 1842. It has an area of 30 square miles, and a population of 160,000. It has a superior harbor, and is used as a military and naval station for the protection of British commerce. **Victoria** (140,000), the capital, is a thronged commercial port.

The small peninsula of *Kowloon*, opposite Hong Kong, was ceded to Great Britain in 1861.

275. **Macao** is a Portuguese settlement on the island *Hiang-Shan*, west of Hong Kong. Population, 80,000.

SUBJECT TERRITORIES OF CHINA.

276. **Tibet** consists of high table-land and mountain ridges between the Himalaya and Kuenlun mountains.

The table-lands of Tibet are from two to three miles high. The only roads to India on the south lie through deep ravines in the mountains.

277. The climate is very dry, and the winters are intensely cold. The products of the warmer valleys are the grain and fruits of the temperate zone. The plains are suited only to grazing.

The yak or grunting ox, the Cashmere goat, and the bhoral are among the important animals. The latter is a kind of large sheep, and is the principal beast of burden used in carrying goods across the Himalayas.

278. Buddhism has its chief seat in Tibet. The high priests, or twin popes, called the *Dalai-Lama*, and the *Bogdo-Lama* or *Tesho-Lama*, reside there.

279. **Lassa** or **Lhaa** (25,000) is the capital, and the place of residence of the Chinese Viceroy. It is the sacred city of Buddhists. The Buddhist temples are richly adorned with gold and works of art, and filled with images. In and near the city are several monasteries, in which the mysteries of Buddhism are taught. The *Dalai-Lama* resides in a convent on Mount Botala, near the city. **Shigatse** is the residence of the *Bogdo-Lama*.

280. The chief employment in Tibet consists in the rearing of sheep and goats. Woollens are manufactured.

The chief trade is with China, and is conducted by caravans. Gold is an important export.

281. **East Turkestan**, also called **Kashgaria** and **Chinese Turkestan**, is situated between the Kuenlun and Thian Shan Mountains. The eastern portion is included in the Desert of Gobi.

The streams which originate in the mountains and flow into land-locked lakes, render many of the valleys very fertile. The majority of the inhabitants are Mohammedans, who are engaged either in agriculture or the caravan trade. There are also many Mongol herdsmen, who wander over the country.

282. **Yarkand** (120,000) is the chief seat of commerce, and the place of residence of the Chinese governor. **Kashgar**, towards the west, the former capital, is a very ancient city.

An extensive caravan trade is carried on through Yarkand, between China and West Turkestan.

283. **Mongolia** lies north of China Proper, and is principally within the Desert of Gobi. It is nearly destitute of rain, has a short warm summer and a long cold winter. Vegetation is very scanty. Grazing is the chief occupation. The inhabitants have no fixed dwellings, but move from place to place, seeking pasture for their flocks and herds, in which their sole wealth consists.

284. **Maimatohin** is a small town in the north, opposite Kiachta, on the Russian frontier. Here the Russians and Chinese exchange goods. **Oorga** is the seat of the Mongol Lama.

Near the middle of the country are the ruins of Karakorum, the capital of Ghengis Khan, the great Mongol conqueror.

285. **Manchooria** is situated on the east of Mongolia and south of the Amoor River. Nearly half the country is now occupied by Russia. The western and southern parts are mountainous and densely wooded. The valley of the *Sungari* is a fertile plain, yielding millet, barley, oats, and tobacco.

286. The **inhabitants** are not nomadic, but have a fixed place of abode, and cultivate the soil.

287. **Moukden** (200,000), the Manchoo capital, is a walled city, contains the Emperor's summer residence, and is the seat of the Viceroy. **Kirin** is a large city.

288. **Corea** is a large peninsula between the Yellow Sea and the Sea of Japan. A large part of the country is rugged and mountainous. The **climate** is humid and the

soil is moderately fertile. Agriculture is in a backward state. The valleys yield rice, tobacco, millet, and jute.

289. The inhabitants, estimated at from 8,000,000 to 10,000,000, are Buddhists. They have, however, little regard for religion, and hold the priests in contempt.

290. **Seoul** (200,000) is the capital. Neither temples nor priests are allowed within the city. Paper is an important manufacture. The drug ginseng is largely exported to China.

291. The **government** is a despotic monarchy, tributary to China.

JAPAN.

292. **Japan**, or *Land of the Rising Sun*, is the most progressive country of Asia. The Empire is made up wholly of islands on the east coast, the total number of which is said to be over three thousand. The principal islands are *Hondo*, *Shikoku*, *Kiushiu*, and *Yezo*.

293. The history of Japan is said to extend back to 660 a.c., and during this period of over 2500 years, its sovereigns have had an unbroken succession in the same family, the present emperor being the hundred and twenty-third of the line.

294. Japan was accidentally discovered by the Portuguese in the year 1542. In 1549 the Jesuit missionary Francis Xavier arrived with a band of priests, and in a few years their converts numbered nearly two millions. Fearful persecution soon arose. In 1637, thirty-seven thousand persons were put to death in a single day. The priests and all other foreigners were expelled. Decrees were made that no native should go abroad, and that those then absent should not return on pain of death. To signify their hatred and utter rejection of Christianity, the annual ceremony of trampling on the cross was instituted.

295. At the same time trade with foreigners was prohibited, excepting only the Chinese and Dutch. The Dutch were restricted to two ships annually, which were confined to the port of Nagasaki. Even here trade was confined to a small island in the harbor, and no stranger was allowed to enter the town.

These restrictions were rigidly enforced until 1854, when the ports of Simoda and Hakodadi were thrown open to the United States, in compliance with the demands of Commodore Perry, who entered the port of Yokohama with a squadron of war vessels. Great Britain and other European nations obtained similar privileges, and various ports are now open to general trade. Foreigners are still prohibited from trading in the interior.

296. Since the policy of isolation was abandoned, Japan has made unparalleled progress in civilization. The government has been completely remodelled; railroads and telegraph lines have been constructed; a system of public education has been established; light-houses have been built, and many other improvements have been introduced.

297. As in several other features, Japan resembles Great Britain in having great commercial advantages in her many excellent harbors.

298. The **surface** is generally hilly and mountainous, some of the mountains rising above the snow line. *Fusiyama*,

an extinct volcano, has an elevation of upwards of 12,000 feet. There are many active volcanoes.

299. The soil is fertile and carefully cultivated.

300. The climate is humid, and varies from warm temperate in the south to cool temperate in the north. The islands are subject to earthquakes, and are sometimes visited in the summer months by violent cyclones.

301. The islands are like Great Britain in being rich in minerals, including coal, iron, copper, gold, silver, porcelain earth, and sulphur.

302. The vegetation embraces almost every variety of the sub-tropical and temperate regions. The native trees include the palm, tree-fern, bamboo, the lacquer-tree, oak, chestnut, and maple.

303. Agriculture is the leading pursuit. The leading products are rice, wheat, millet, barley, tea, sugar, and silk.

304. Japan has few domestic animals, such as sheep, oxen, and horses. Hence the country is poorly supplied with such important articles as wool, milk, butter, cheese, and leather. Human labor has also to perform the service rendered by oxen and horses in other countries.

305. The population numbers about the same as that of the British Isles.

The Japanese have finer features than the Chinese, and they are the most progressive of the Mongolian race. Women have a higher social position than in China, but they are kept in seclusion. As a general rule the people are honest, courteous, and intelligent. Education is making rapid advance. Many young men of the country have been educated in England or in the United States. Buddhism is the prevailing religion. Through the efforts of missionaries, Christianity has made much progress.

306. **Tokio** (1,100,000), the capital, has a beautiful situation on the east coast of Hondo. According to the custom of the country, two-wheeled carriages, called *jimrikshas*, drawn by men, take the place of cabs.

Yokohama, 18 miles south by rail, has a good harbor, and is the

port of **Tokio**. Foreign merchants make this town their headquarters.

307. **Kioto** (Miako)—260,000—in a tea-growing district in the south of Hondo, has important silk manufactures, and is noted as a seat of refinement and art. It has many Buddhist temples, one of which has a bronze statue of Buddha, 50 feet high.

Osaka (430,000) is a large commercial and manufacturing city surrounded by a populous tea-growing country.

Nagasaki (40,000), on the south-west coast of Kiusiu, in the neighborhood of coal mines, is an important coaling-station.

Nakodadi (47,000), a treaty port of Yezo, has a good harbor.

308. The most important manufactures of Japan are porcelain, lacquer-ware, paper, and silks. The implements used in almost all departments of industry are of the rudest and most primitive kind. The farmers have no carts; the spade is used instead of the plough; and grain is ground by hand-mills.

309. The chief exports are silk, tea, lacquer, camphor, earthenware, copper, and rice.

The foreign trade is principally with Great Britain, the United States, and France. Commerce is subject to considerable restriction. Foreign vessels are admitted only to certain ports, known as *treaty ports*.

310. The government of Japan is a constitutional monarchy. The Legislature comprises two bodies—a House of Peers and a House of Representatives.

311. The **Kurile Islands**, situated on the north-east of Yezo, were obtained from Russia in exchange for the Japanese part of Saghalien. They are valuable chiefly for furs.

312. The **Loo Choo Isles**, situated on the south of Japan, are very beautiful and fertile, yielding rice, millet, sugar, cotton, indigo, pine-apples, and oranges. They have a total area equal to that of Cape Breton, and a population of 170,000. They are tributary to Japan.

EXERCISE—Find the difference of time between Canton and St. John, New Brunswick.

QUESTIONS.—(1) What part of Asia is most humid, and why?

(2) On what causes does the absence of rain on the table-lands of Central Asia depend?

own their head-

district in the
and is noted as
st temples, one
h.

manufacturing city

Kiusiu, in the
station.
ood harbor.

of Japan are
e implements
of the rudest
no carts; the
is ground by

ner, camphor,

t Britain, the
subject to con-
mitted only to

tutional mon-
—a House of

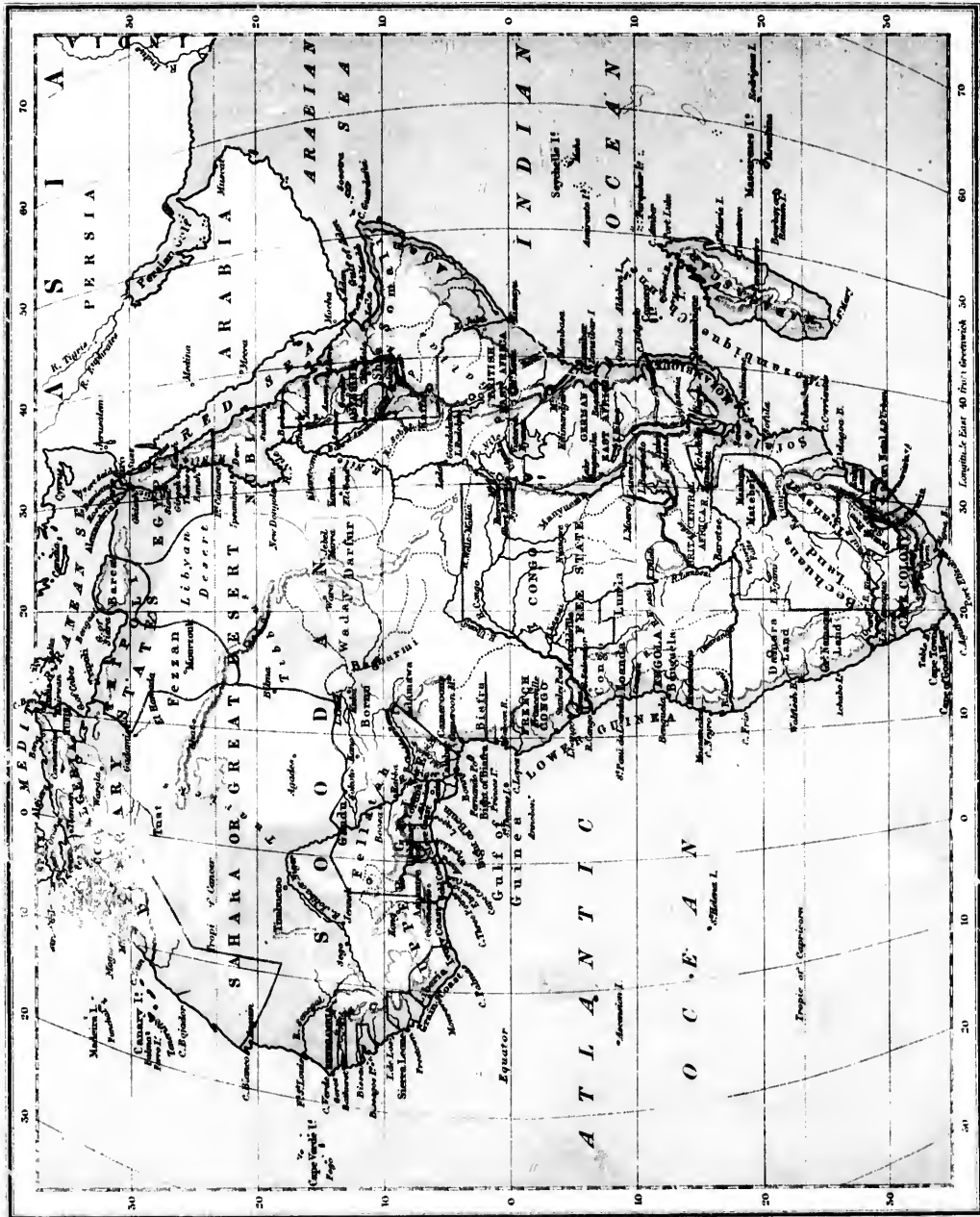
east of Yezo,
apanese part of

of Japan, are
sugar, cotton,
al area equal to
They are tri-

en Canton and

mid, and why?
the table-lands

AFRICA

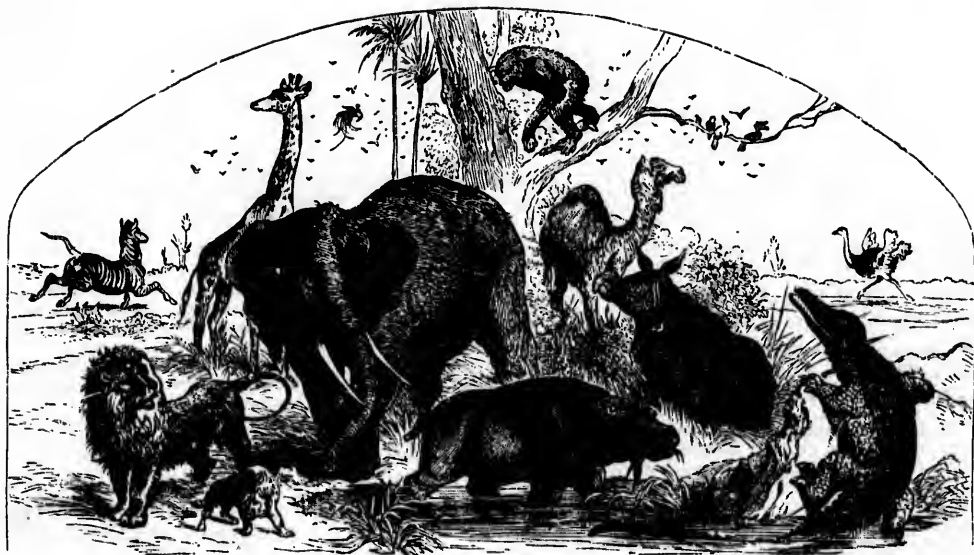


English Miles
 0 100 200 300 400 500 600 700 800
 Scale of 123 Miles to an Inch.
 One Square Inch represents 358 2/3 the Area of One sq. Inch of Map.

General elevation below 1000 feet
 1000 to 2000 feet
 2000 to 3000 feet
 3000 to 4000 feet
 4000 to 5000 feet
 5000 to 6000 feet
 6000 to 7000 feet
 7000 to 8000 feet
 8000 to 9000 feet
 9000 to 10000 feet
 10000 to 11000 feet
 11000 to 12000 feet
 12000 to 13000 feet
 13000 to 14000 feet
 14000 to 15000 feet
 15000 to 16000 feet
 16000 to 17000 feet
 17000 to 18000 feet
 18000 to 19000 feet
 19000 to 20000 feet
 20000 to 21000 feet
 21000 to 22000 feet
 22000 to 23000 feet
 23000 to 24000 feet
 24000 to 25000 feet
 25000 to 26000 feet
 26000 to 27000 feet
 27000 to 28000 feet
 28000 to 29000 feet
 29000 to 30000 feet
 30000 to 31000 feet
 31000 to 32000 feet
 32000 to 33000 feet
 33000 to 34000 feet
 34000 to 35000 feet
 35000 to 36000 feet
 36000 to 37000 feet
 37000 to 38000 feet
 38000 to 39000 feet
 39000 to 40000 feet
 40000 to 41000 feet
 41000 to 42000 feet
 42000 to 43000 feet
 43000 to 44000 feet
 44000 to 45000 feet
 45000 to 46000 feet
 46000 to 47000 feet
 47000 to 48000 feet
 48000 to 49000 feet
 49000 to 50000 feet
 50000 to 51000 feet
 51000 to 52000 feet
 52000 to 53000 feet
 53000 to 54000 feet
 54000 to 55000 feet
 55000 to 56000 feet
 56000 to 57000 feet
 57000 to 58000 feet
 58000 to 59000 feet
 59000 to 60000 feet
 60000 to 61000 feet
 61000 to 62000 feet
 62000 to 63000 feet
 63000 to 64000 feet
 64000 to 65000 feet
 65000 to 66000 feet
 66000 to 67000 feet
 67000 to 68000 feet
 68000 to 69000 feet
 69000 to 70000 feet
 70000 to 71000 feet
 71000 to 72000 feet
 72000 to 73000 feet
 73000 to 74000 feet
 74000 to 75000 feet
 75000 to 76000 feet
 76000 to 77000 feet
 77000 to 78000 feet
 78000 to 79000 feet
 79000 to 80000 feet
 80000 to 81000 feet
 81000 to 82000 feet
 82000 to 83000 feet
 83000 to 84000 feet
 84000 to 85000 feet
 85000 to 86000 feet
 86000 to 87000 feet
 87000 to 88000 feet
 88000 to 89000 feet
 89000 to 90000 feet
 90000 to 91000 feet
 91000 to 92000 feet
 92000 to 93000 feet
 93000 to 94000 feet
 94000 to 95000 feet
 95000 to 96000 feet
 96000 to 97000 feet
 97000 to 98000 feet
 98000 to 99000 feet
 99000 to 100000 feet

the
 and
 nat
 nel
 bey
 ma
 Col
 2
 cor
 Du
 fin
 Ho
 ope
 3
 Du
 selv

AFRICA.



ANIMALS OF AFRICA.

I. History.—1. In civilization and power Africa ranks the lowest among the great divisions of the Earth. Egypt and Carthage, on the Mediterranean coast, were leading nations of antiquity; but the greater portion of the continent, isolated from the rest of the world, has never advanced beyond the lowest barbarism. Great progress has been made in South Africa, through the colonization of Cape Colony by the English.

2. At the commencement of the fifteenth century the western coast south of Cape Nun was wholly unknown to Europeans. During that century the Portuguese explored the coast, until finally, in 1486, Bartholomew Diaz discovered the Cape of Good Hope. Vasco de Gama, in 1497, sailed around the Cape and opened up a new route to the East Indies.

3. A large part of the interior is still very imperfectly known. During the past hundred years many travellers have exposed themselves to great hardships and dangers in exploring different parts

of the country. Some of the chief difficulties encountered in travelling in the interior are hostility of the natives, insalubrity of the climate, entire want of means of conveyance, and ferocity of the wild beasts.

Some of the most noted travellers who have explored different parts of Africa are Bruce, Park, Denham, Clapperton, Lander, Richardson, Barth, Moffat, Livingstone, Burton, Speke, Grant, Baker, Cameron, and Stanley.

II. Position.—4. Africa is a great peninsula, connected with Asia by the Isthmus of Suez, 72 miles in breadth. It has the Mediterranean on the north, the Red Sea and Indian Ocean on the east, and the Atlantic on the west.

Africa lies pretty equally on both sides of the Equator, and is principally in the Torrid Zone.

Lat. $37^{\circ} 20' N.$ — $34^{\circ} 50' S.$; long. $17^{\circ} 32' W.$ — $51^{\circ} 20' E.$

III. Form.—5. In outline Africa is pear-shaped, with an indentation on the west, and a projection on the east. A

General elevation below 1000 ft. E. and interior below 600 ft. Cultural boundaries

English Miles 0 10 20 30 40 50 60 70
Scale of 62.5 Miles to an Inch.
The Square Inch represents 556 1/2 the Area of the Square of Map.



line drawn east and west between the Bight of Biafra and Cape Guardafui gives a triangle on the south, and an oval on the north.

IV. **Coast.**—6. Africa is noted for the regularity of its coast-line. In this feature it resembles South America, and contrasts strongly with Europe.

The chief **coast waters** are the *Strait of Gibraltar*, the *Gulf of Cabes*, and the *Gulf of Sidra*, on the north; the *Gulf of Suez*, *Red Sea*, *Strait of Bab-el-Mandeb*, *Gulf of Aden*, *Mozambique Channel*, and *Delagoa Bay*, on the east; the *Gulf of Guinea*, *Bight of Biafra*, and the *Bight of Benin*, on the west.

7. The coast-line of Africa is estimated at 16,000 miles. The Strait of Gibraltar at the narrowest part is 12 miles in width. Owing to the absence of deeply-penetrating seas, the interior of Africa is nearly excluded from intercourse with the rest of the world.

8. The most important **capes** are *Ceuta*, *Bon*, *Guardafui*, *Delgado*, *Corrientes*, *Aguilhas*, *Good Hope*, *Lopez*, *Palmas*, *Verde*, *Blanco*, and *Nun*.

Ceuta is a high promontory opposite the Rock of Gibraltar in Europe. These promontories were anciently called the *Pillars of Hercules*.

9. The principal **islands** on the coast of Africa are *Madagascar*, the *Mascarenes*, *Comoro*, *Zanzibar*, *Amirante*, *Seychelles*, and *Socotra*, on the east; *St. Helena*, *Ascension*, *Annohon*, *St. Thomas*, *Prince's*, *Fernando Po*, the *Cape Verde Islands*, the *Canaries*, and the *Madeiras*, on the west.

10. **Madagascar**, separated from the mainland by Mozambique Channel, 250 miles wide, is one of the largest islands on the globe. It is about 1000 miles in length, and its area is 228,550 square miles, or equals a square of 478 miles. The coast is low, swampy, and unhealthy. A range of mountains traverses the interior, having an extreme height of 10,000 feet. The products are cotton, sugarcane, rice, cocoa-nuts, and various tropical fruits. The inhabitants, computed at 3,500,000, belong principally to the Malay race. The government is a monarchy. *Tananarivo* (100,000), in the interior, is the capital. *Tamatave* is the chief commercial town.

11. The **Mascarenes** include *Bourbon* or *Réunion*, *Mauritius*, and *Rodriguez*.

Bourbon has belonged to France for more than two hundred years. Its area is about 765 square miles. The surface is mountainous, with lofty volcanic peaks. The island is subject to terrific hurricanes, and is very unhealthy. The products are sugar, coffee, rice, tobacco, and tropical fruit. The population is about 164,000. *St. Denis* is the capital. The small islands *St. Marie*, *Mayotte*, and *Nossi Bé*, near Madagascar, are dependencies.

Mauritius, or *Ile of France*, belongs to Great Britain, having been taken from France in 1810. The area is about 708 square miles. The surface is varied with mountains, fertile valleys, and plains. The climate is delightful. The chief products are sugar, rice, maize, and coffee. Population, 369,000. Many of the laborers on the sugar plantations are coolies from India.

Port Louis is the capital. *Rodriguez*, 300 miles east of Mauritius, is a dependency.

12. The **Comoro** group, with the exception of *Mayotte*, are under a native government.

Zanzibar, 25 miles from the mainland, is 48 miles in length, and

from 15 to 30 miles in breadth. It belongs to Great Britain. The climate is tropical; products, cocoa-nuts, oranges, sugar, cloves, and rice. Population, 200,000. Chief town, *Zanzibar* (100,000).

The **Amirante** and **Seychelles** are groups of small islands belonging to Great Britain.

Socotra, near the entrance to the Gulf of Aden, belongs to Great Britain. Area, about 3000 square miles. It yields aloes of the finest quality. Population, 4000.

13. **St. Helena**, about 1200 miles from the west coast, belongs to Great Britain. It is noted as the place of exile of Napoleon I. It is about 10 miles in length, and is principally a rude mass of rock. About one-fifth of the island is capable of cultivation. Population, 4500.

14. **St. Thomas and Prince's Island** belong to Portugal. Total area, 450 sq. miles. Population, 21,000. Coffee is the chief export.

15. **Fernando Po and Annohon** belong to Spain. *Fernando Po* is about 45 miles in length, and has mountains 1,000 feet high. The climate is very hot and unhealthy.

16. The **Cape Verde Islands**, 320 miles from Cape Verde, belong to Portugal. There are ten principal islands, having a united area of about 1650 square miles. They are generally mountainous. Fogo, one of the group, has a volcano over 9000 feet high. The products are sugar, maize, rice, cotton, coffee, and tropical fruits. Population, 111,000. *St. Vincent* is noted for its fine harbor.

17. The **Canaries**, formerly called the *Fortunate Isles*, belong to Spain. There are seven principal islands, with a united area of 2800 square miles. They are mountainous and volcanic. *Teneriffe*, the largest of the group, contains an extinct volcano, called the Peak of *Teneriffe*, 12,182 feet high. The chief products are sugar, oil, wine, and the cochineal insect. Population, 288,000. Capital, *Santa Cruz*, on *Teneriffe*.

18. **Madeira**, the principal island of a small group belonging to Portugal, is about 400 miles from Africa. It is about 35 miles long, and 12 broad. It is volcanic and elevated. The products are vines, oranges, bananas, coffee, and on the higher slopes the grains and fruits of temperate countries. *Madeira*, from its salubrity, is a favorite resort of invalids. Population of the group, 132,000. Capital, *Funchal*.

V. **Area.**—19. Africa is the second in size of the great divisions of the globe. The area is estimated at 11,630,000 square miles, or it equals a square of 3413 miles.

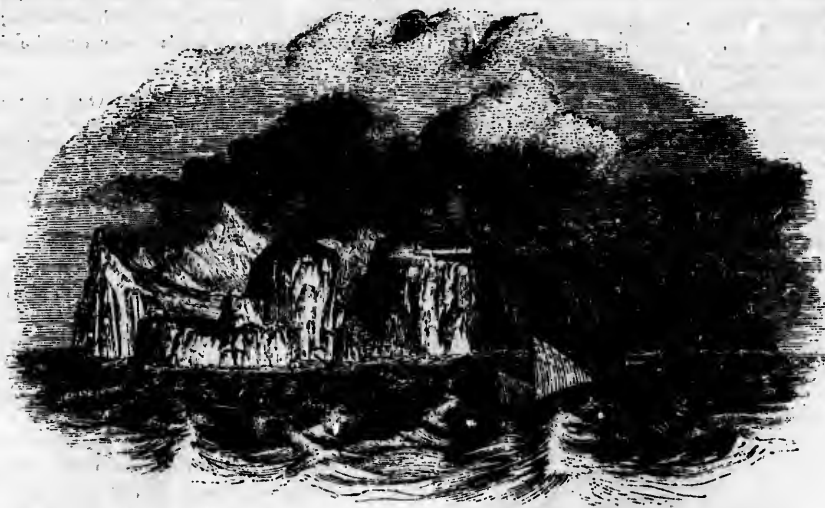
Extreme length from north to south, 5000 miles; breadth, 4700 miles.

EXERCISE ON THE GLOBE.—Find the distance from the north of *Tunis* to *Cape Agulhas*; also, from *Cape Guardafui* to *Cape Verde*.

VI. **Surface.**—20. Nearly the whole continent is tableland, the triangular southern portion being much the more elevated.

The oval northern section has two mountain ranges;—the *Atlas Range*, along the Mediterranean, from the Atlantic to *Cape Bon*; and the *Kong Mountains*, extending from the Atlantic, westerly, parallel with the Gulf of Guinea. Between these ranges is the *Sahara* or *Great Desert*.

The **Atlas Mountains** are much the highest towards the west. *Mitza*, in *Marocco*, is about 11,400 feet high. The northern slope of the *Atlas Mountains* is called the *Tell*. The **Kong Mountains** are from 5000 to 4000 feet in height.



ST. HELENA.

21. In the southern section of the continent broken mountain-ranges lie along the margin of the table-land. Between the mountain-ranges and the sea are lowlands, varying in breadth from 50 to 300 miles. The principal mountains are the *Cameroon*, near the Bight of Biafra; the *Nieuwveld* and the *Sneeubergen*, in the south; the *Quathlamba* or *Drakenberg*, the *Lupata*, and the *Mountains of Abyssinia*, on the east.

The highest point in Abyssinia is about 15,000 feet above the sea. *Mount Kenia* (about 20,000 feet high), near the Equator, and *Kilimandjaro* (22,814 feet), a few degrees south, are the highest known points in Africa. A large part of the central plateau, in the south, is occupied by the *Katihar Desert*.

VII. Rivers.—22. The rivers of Africa are not numerous or large, compared with the extent of the continent. The most important are the *Nile*, *Zambesi*, *Orange*, *Coanza*, *Congo*, *Niger*, *Gambia*, and *Senegal*.

23. The *Nile* is the longest river in Africa, and one of the longest and most remarkable rivers in the world. It is supposed to be about 3900 miles in length. Until recently its source was unknown. In 1862 Captain Speke discovered that it flowed from a great lake on the Equator, called the *Victoria Nyanza*. Subsequently, Baker traced its course westerly from this lake to another called the *Albert Nyanza*. The stream flowing from the *Albert Nyanza* is called the *White Nile*. In the first half of its course it receives several tributaries, principally from the mountains on the east. The most important are the *Sobat*, *Blue Nile*, and *Atbara*. Throughout the lower half of its course it has no tributaries. It forms several cataracts before reaching Egypt; and it enters the sea by several

mouths, forming a large delta. For three months in summer the Nile overflows its banks in Egypt, covering all the lowlands with water. This is occasioned by the heavy rains in the mountains of Abyssinia.

24. The *Niger*, 2500 miles long, is the third river of Africa. It is navigable far into the interior, but flows through a very unhealthy country.

25. The *Zambesi*, 1600 miles long, is a large river. Its chief tributary is the *Kakema*. A little below the junction are the *Victoria Falls*, the greatest cataract in Africa.

26. The *Orange*, or *Gariop*, in South Africa, has a westerly course of about 1000 miles. The *Vaal* is its chief tributary.

27. The *Congo*, or *Livingstone*, is in volume of water the largest river in Africa, and the largest in the world next to the Amazon. It rises east of Lake Bangweolo, in about latitude 12° south; flows westerly to that lake; thence northerly for 1000 miles to Stanley Falls, near the Equator; thence westerly and south-westerly, to the Atlantic Ocean. It is about 3000 miles long, and at its mouth is ten miles wide and 1000 feet deep. The navigation of the river from the lake expansion of Stanley Pool to the lowland coast region is obstructed by a series of rapids and cataracts.

VIII. Lakes.—28. *Victoria Nyanza* and *Albert Nyanza*, sources of the Nile; *Chad*, *Tanganyika*, *Nyassa*, *Shirwa*, *Ngami*, and *Dembea*, are the principal lakes.

29. The *Victoria Nyanza* (*Victoria Water*) is a shallow lake, 220 miles long and about 180 in breadth. Its largest tributary is the *Shimiyu*. The surplus waters of the *Victoria Nyanza* are carried to the *Albert Nyanza* by the *Somerset River*, a stream about 230 miles in length, noted for its cataracts.

30. The *Albert Nyanza*, about 140 miles long and 40 miles broad, is bordered by rocky cliffs and high mountains.

31. *Tanganyika* is about 450 miles in length, and from 15 to 60

miles in breadth. Its surplus waters are carried off by the river *Lukuga* to the river Congo.

32. *Nyassa*, about 300 miles in length, with an average breadth of 26 miles, is noted for the grandeur of the scenery on its banks.

33. *Chad* is a large shallow lake in Soudan, 200 miles in length and 140 miles in breadth. It receives the waters of the *Waube* from the north, and those of the *Shari* from the south. The lake has no outlet except at the rainy season, when, being greatly enlarged, it overflows by a stream which conveys its surplus water to a lower basin.

IX. **Soil.**—34. The soil of Africa, except in the arid deserts, is generally very productive.

X. **Climate.**—35. On account of its burning heat, Africa has been called "The land of the mid-day." The northern and southern extremities have a warm temperate climate; but the greater portion of the continent, lying between the tropics, is very hot. Throughout the greater part of the tropical region there are but two seasons in the year—the wet and the dry. During the former it rains in torrents every day, and the lowlands are covered with water; during

ally, have a dry climate. A vast tract of country between the parallels of 15° and 30° north, stretching from the Atlantic to the Red Sea, is nearly or quite destitute of rain.

30. A combination of causes renders Africa the hottest portion of the Earth. Among the causes may be mentioned its tropical situation, scarcity of rain and vegetation in many parts, and the regularity of the coast line. The greatest mean annual temperature known, except perhaps in the interior of Australia, is said to be 113° in the Sahara. A dry, scorching wind, called the *harmattan*, blows from the desert.

Many parts of Africa, particularly the tropical coasts south of the Sahara, are very insalubrious.

XI. **Minerals.**—37. The mineral wealth of Africa is very imperfectly developed. Gold is found in Abyssinia, Mozambique, Soudan, Senegambia, and Guinea; silver, copper, and lead occur in the Atlas Mountains. Griqualand West, in South Africa, is one of the most noted diamond fields in the world.

XII. **Plants.**—38. The products in the warm temperate regions of the north and south are similar to those of Southern Europe. The palm, in one or other of its species, is said to flourish throughout the whole continent except in the extreme south. The larger part of the country has a tropical vegetation, including the cocoa-nut, butter-tree, cassia, gum acacia, rosewood, and mahogany. The baobab is the most remarkable tree of the tropical regions. It does not grow tall, but the trunk is of immense size—sometimes over thirty feet in diameter.

39. Coffee grows wild in Abyssinia. The plateaus of Southern Africa, in the wet season, are covered with beautiful flowers, such as geraniums, heaths, and lilies, cultivated with us as house plants.

The ground-nut is a low leguminous plant, abundant in Gambia, which ripens its pods under ground.

Frequently along the margins of the lakes and rivers are extensive marshes, covered with thickets of cane and rushes, amid which lurk innumerable wild beasts. Owing to the dryness of the climate, the vegetation of Africa is generally less rank and varied than that of South America.

XIII. **Animals.**—40. Africa is noted for the number, variety, and size of its wild animals. Some of the most important are the elephant, rhinoceros, hippopotamus, lion, hyena, leopard, panther, buffalo, giraffe or camelopard, zebra, antelope, monkey, chimpanzee, gorilla, and crocodile.

41. The ostrich is the most remarkable bird of Africa. It is very tall, strong, and fleet, and is much hunted for its feathers. Vultures, eagles, parrots, and guinea-fowl are numerous. Among the insects may be mentioned locusts, termites or white ants, and



BAOBAB-TREE.

the dry season it seldom rains, and the country is parched with burning heat.

The northern and the southern portions of Africa, gener-

the tsetse fly, the bite of which is fatal to the ox and most other domestic animals.

XIV. Inhabitants.—42. The population of Africa is estimated at about 205,000,000. The principal races are *Whites, Negroes, Kaffirs, and Hottentots.*

43. Those of the White race form the chief population in the north, including the Arabs in the valley of the Nile and along the coast of the Mediterranean; and the Berbers in the Atlas Mountains and the oases of the desert. To this race also belong the Europeans of South Africa.

The Negroes occupy the whole of the interior south of the Sahara. The Kaffirs, a well-formed, intelligent race, occupy a large part of the south-east coast. Their wealth consists chiefly in cattle. The Hottentots, a deformed and ugly race found on the west side of Southern Africa, are among the lowest of the human family.

Mohammedanism is the principal religion in the north. The inhabitants of the centre and south are pagans, and exceedingly superstitious.

XV. Divisions.—44. The countries of Africa are usually grouped under the following heads:—

The Barbary States; the Region of the Nile, including Egypt and Abyssinia; the Sahara; Western Africa; Central Africa; Eastern Africa; and Southern Africa.

There are no powerful native states in Africa. The interior includes a large number of petty states, which have little intercourse with other parts of the world. Several European powers, including Great Britain, France, Germany, Portugal, Belgium, Italy, and Spain, have taken possession of large portions of Africa. Over some territories they exercise full control; over others they claim the right of protection, which in many cases will probably result in absolute ownership. The boundary lines of the territories claimed by the various powers are often very indefinite, especially in the interior.

XVI. Towns.—45. Africa has few important cities. **Cairo** (368,000), the capital of Egypt, is the only very large city. It is noted for its magnificent mosques and lofty minarets.

The towns in the interior of Africa are generally built of mud, and are surrounded by mud walls.

XVII. Industries.—46. Agriculture and grazing are the most important pursuits.

The want of energy on the part of the inhabitants, and the absence of easy communication with other parts of the world, greatly obstruct the prosperity of African countries. Trade with the interior is conducted by caravans, in which goods are transported on the backs of camels. Ivory, ostrich feathers, and gums, are important exports. The slave trade, though less extensive than formerly, is still carried on in the interior and along the east coast by Arab merchants.

XVIII Government.—47. The native governments are

despotic. The petty rulers of the interior often make war on one another for the purpose of obtaining captives to sell as slaves.

BARBARY STATES.

48. The Barbary States are situated between the Atlantic and Mediterranean on the north, and the Sahara on the south. They comprise the following countries:—

Morocco (Morocco), an independent State; **Algeria**, a province of France; **Tunis**, a protectorate of France; **Tripoli**, a province of Turkey.

Some derive the word Barbary from *Berber*; others from the Latin *barbarus*.

This portion of Africa was the seat of noted Phœnician colonies; it formed part of the Roman Empire, and was subjugated by Mohammedan Arabs about the middle of the seventh century. In later times the coasts were noted for pirates.

49. The Atlas Mountains traverse Barbary from east to west. The southern slopes are very hot; north of the mountains the climate is temperate, except towards the east, where the low range affords little protection from the burning winds of the desert.

50. The most important products north of the Atlas Mountains are grain and olives. Dates are the chief product on the south of the mountains. An extensive region here is called *Beled-el-Jerid* or *Land of Dates*.

The Barbary States were accounted the granary of ancient Rome. Cotton is cultivated to some extent. Sheep and goats are extensively reared in the mountain districts. The chief manufactures are morocco leather, olive oil, indigo, and salt; which, with ostrich feathers, wool, gums, dates, grain, and Esparto grass (used for making paper), are the principal exports. Trade is carried on with Central Africa across the desert by caravans. Cloths and other manufactured goods are exchanged for gold, ivory, ostrich feathers, and gum. Owing to the new direction of trade between Europe and Central Africa by the Niger, the caravan trade has considerably diminished.

MOROCCO.

51. This country, the most westerly of the Barbary States, was anciently called *Mauritania*. Much of the surface is mountainous.

The area is estimated at 260,000 square miles.

The river valleys are very fertile. The streams on the south of the Atlas Mountains are lost in the sands of the desert.

52. **Agriculture** is in a very rude state. A kind of grain called millet is much used as food.

53. **Wild animals** are numerous. Pompey is said to have obtained over three hundred lions from this country to fight in the Circus at Rome.

54. The population is variously estimated from 2,500,000 to 8,000,000. It is probably about 5,000,000. The Arabs, who are in this country called Moors, are the ruling race. Civilization is in a low state, and education consists chiefly in a knowledge of the Koran.

The Berbers inhabit the mountains. Jews are numerous, and are chiefly engaged in trade. They are subjected to much persecution from the Mohammedans.

Towns.—55. There are three capitals—*Fez, Morocco, and Mequinez.* Morocco (60,000) is on a fertile plain 130 miles from the Atlantic. It is a walled city. *Fez* (88,000) is surrounded by orchards and orange groves. It was once a magnificent city, containing seven hundred mosques, and is still accounted a holy city by Mohammedans. Other important towns are *Mequinez* (70,000); *Mogador*, the chief port; *Babatt*; *Tangier*; and *Salas*, once a stronghold of Moorish pirates. *Tetuan* and *Ceuta* belong to Spain.

56. The government is despotic and tyrannical. The Sultan, who has unlimited power both in civil and religious matters, claims to be descended from Mohammed, and is styled by his subjects, "Lord of the true believers."

ALGERIA.

57. This State, corresponding nearly with ancient Numidia, is now a French province.

For several centuries the pirates of Algeria were the scourge of commerce. Sweden, Denmark, Portugal, and other European powers, paid them black-mail to secure their trading vessels from plunder. Christian captives were held as slaves. The French, provoked by repeated attacks on their commerce, together with an insult to the consul, bombarded Algiers in 1830, and by a long cruel war finally subjugated the whole country.

58. The area is estimated at about 184,465 square miles.

59. Between the Atlas Mountains and the Mediterranean is a narrow fertile district called the *Tell*, which yields large quantities of grain. The other products are cotton, grapes, and esparto grass, which is exported for the manufacture of paper.

60. The French Government has greatly improved the arid region adjoining the desert, by boring Artesian wells. The natives were filled with the greatest joy on beholding the pure water gush up amid the burning sands.

61. The population is about 3,817,000. About 25,000 are French colonists; the total of European descent is 217,000, and 43,000 Jews.

Towns.—62. *Algiers* (75,000), on the Mediterranean, is the capital and most important town. Invalids from Northern Europe resort to Algiers in the winter season. Louis XIV. of France, to punish the inhabitants for their piracies, bombarded Algiers three times. During the first bombardment the Dey, in retaliation, caused the French consul to be blown from the mouth of a mortar. Lord Exmouth besieged the town in 1816, and compelled the Dey to liberate the Christian slaves.

The other towns are *Constantine, Bona, and Oran.*

TUNIS.

63. Tunis corresponds generally with ancient Carthage.

The area of the country is estimated at 45,700 square miles, and the population at 1,500,000.

64. The northern part of Tunis is very fertile, yielding grain, olives, and fine fruit.

Towns.—65. *Tunis* (120,000), the capital, is, after Alexandria and Cairo, the largest city in Northern Africa. It is situated on the margin of a small lake, communicating with the Mediterranean by a narrow channel. One-fifth of the inhabitants are Jews. Tunis has extensive manufactures of leather, cottons, silks, woollens, earthenware, olive oil, and essences. Ten miles north of the city is the site of ancient Carthage.

Kairwan (12,000), in the interior, contains the finest and most revered mosque in Africa.

66. The government of the country is under the management of a French representative called the Minister Resident.

TRIPOLI.

67. Tripoli derives its name from the Greek *tripolis*, "three towns," the whole country in ancient times having been subject to three flourishing cities. It now forms a pachalic of the Turkish Empire. It includes the plateau of Barca adjoining Egypt, and Fezzan on the south.

68. The area of Tripoli is about 390,000 square miles.

69. The narrow coast district is very fertile, yielding grain, cotton, the vine, and tropical fruit. The remainder of the country is for the most part a barren waste, exposed to burning winds and drifting sands from the desert.

70. Sheep, cattle, and mules are numerous.

71. The population is estimated at 1,000,000.

Towns.—72. *Tripoli* (30,000), the capital, has an important caravan trade with Central Africa, exchanging manufactures for ivory and gold dust.

73. The caravans, consisting of long trains of heavily-laden camels, pass through Fezzan, directing their course from one oasis to another. These fertile spots, with their refreshing springs and date bearing palms, are pleasant halting-places on the weary journey.

74. *Mourzouk*, on one of these oases, is the last station on the caravan route for Timbuctoo before entering the great desert.

EGYPT.

75. Egypt is one of the most interesting countries in the world. Its history extends back to the earliest times. Situated in the rainless region of Africa, it owes its fertility to the Nile, the most remarkable river on the globe.

Egypt was the seat of one of the most renowned and powerful nations of antiquity. The advancement of its early inhabitants in art and civilization is demonstrated by the remains of its magnificent pyramids, temples, sepulchres, statues, and obelisks.

Egypt was conquered by the Turks in the beginning of the sixteenth century. In 1839 it became a hereditary vicerealty of the Ottoman Empire, but it is now virtually independent of Turkey.

76. Egypt proper is situated in the north-east of Africa, and it is joined to Asia by the Isthmus of Suez. Its breadth on the Mediterranean is about 400 miles, and it extends up the Nile nearly 600 miles.

77. The area of Egypt proper is about 200,000 square miles; but the settled country, being confined to the valley of the Nile and its delta, comprises less than a tenth of the whole. The breadth of the valley of the Nile is from two to ten miles. Rocky hills separate the valley from the Red Sea and the Sahara.

78. The Nile has an average width of half a mile. Ninety miles from its mouth it divides into the Damietta and Rosetta branches, which enclose an alluvial country called the Delta. It seldom rains in that part of Egypt lying north of Cairo. Swollen by the periodic rains of Abyssinia, the Nile overflows its banks in the month of August, inundating the whole valley. In October the river subsides into its regular channel, leaving a deposit of mud which fertilizes the soil.

79. **Industries.**—Agriculture is the leading occupation. The principal products are cotton, sugar-cane, rice, wheat, maize, beans, flax, indigo, and tobacco. The wheat crop and some others need no watering from the time they are sown; cotton, sugar-cane, and rice require irrigation. Through English capital and English engineers a system of irrigation by canals leading from the Nile has been provided at great cost. The productiveness of the country has been thus greatly increased.

80. The chief manufactures are pottery, fire-arms, and carpets.

Towns.—81. Cairo (368,000), the capital, is three miles east of the Nile, and five miles above the head of the Delta. Three miles above Cairo, on the west of the Nile, is Ghizeh, where the celebrated Pyramids commence. The largest pyramid covers an area of more than 12 acres, and is 461 feet high. In front of one of the pyramids is the Sphinx, a huge figure, half human and half animal, cut out of solid rock. Near Cairo is the site of ancient *Heliopolis* or *On*, the position of whose walls are still marked by mounds of earth.

82. **Alexandria** (230,000), on the Mediterranean, is the principal port of Egypt, and the chief seat of its foreign commerce.

83. **Rosetta** and **Damietta** are small sea-ports on the Mediterranean. The famous Rosetta stone, the inscriptions on which

furnish the key for deciphering ancient Egyptian hieroglyphics, was discovered near Rosetta.

Fort Said, built on small islands at the east point of the Delta, is the northern terminus of the Suez Canal. The sea is here very shallow, and an artificial channel, walled by stone piers, connects the canal with the deep waters of the Mediterranean. **Suez**, at the southern end of the canal, is a small town on the Gulf of Suez. The country around being parched and destitute of fresh water, water is brought from the Nile to the town by the *Sweet Water Canal*.

84. **Assiout**, in Upper Egypt, is connected with Alexandria by rail. Still farther up the Nile, on its left bank, are the ruins of ancient *Thebes*, with huge columns, sphinxes, and obelisks. The rocky cliffs in the rear are excavated into vast sepulchres; and on the opposite side of the river are the ancient temples of *Karnak* and *Luxor*.

85. The **Suez Canal**, from Port Said to Suez, about 90 miles in length, is a great highway for commerce between the maritime countries of Europe and those of Southern Asia. The British Government owns stock in this canal to the value of about \$20,000,000.

86. Egypt has about 1000 miles of railway. A line extends from Alexandria to Cairo, 130 miles, thence to Suez, 90 miles. There is also a line from Alexandria to Assiout, 230 miles.

87. The **population**, consisting of Copts, Turks, Arabs, Jews, and a few thousand Europeans of different nationalities, is estimated at about 7,000,000.

Mohammedanism is the prevailing religion.

88. Cotton, cotton-seed, sugar, and wheat are the leading exports. The trade is principally with Great Britain.

89. The **government** of Egypt is a hereditary monarchy. The sovereign, bearing the title of *Khedive*, has the right of arranging treaties with foreign powers, but pays an annual tribute to Turkey. He is influenced in all important matters by the British Government.

The **army** of the Khedive numbers about 9000 men. Great Britain maintains a small army in Egypt, to enforce measures of reform which she has organized.

The **public debt** of Egypt is about \$300,000,000.

NUBIA, KORDOFAN, DARFUR, ETC.

90. The territory south of Egypt, extending nearly to Lake Albert Nyauza, and lying between the Red Sea on the east and Wadai on the west, has been known by the name of Egyptian Soudan. This vast region was for many years subject to Egypt; but the native tribes, especially the slave-dealers, were opposed to Egyptian rule, and by a recent rebellion, led by Mohammed Achmet, known as the *Mahdi*, or the Prophet, they have thrown off their allegiance. The country is now without any well-organized and settled government.

91. The principal countries in Egyptian Soudan are *Nubia*, *Kordofan*, *Darfur*, *Sennaar*, and *Zeriba*.

92. **Nubia** is on the west of the Red Sea and on the south

of Egypt. In the northern portion, the valley of the Nile is rendered very narrow by the close approach of rocky hills on each side. The country here is hot and dry, and agriculture is impracticable without irrigation. Water is taken from the Nile by machinery worked by oxen. In the south, rain is more abundant.

93. The products are coffee, cotton, maize, tobacco, and gums.

94. **Khartoum** (70,000), the largest town, is situated at the confluence of the Blue and the White Nile. While the country was under Egyptian rule, it was the capital, and the residence of the Governor-General. It was also a great centre in the caravan trade between the negro states on the west and the ports of the Nile and the Red Sea. During the rebellion in 1885, General Gordon, who was holding the town for Egypt, was treacherously slain by the rebels.

95. The other towns are *Suakim*, *Dongola*, *Berber*, *Shendy*, *Senaar*, and *Ipsambul*.

96. **Suakim**, an important port on the Red Sea, has been occupied by Great Britain since the rebellion.

97. **Ipsambul** has remarkable antiquities, consisting of temples cut out of the solid rock, with colossal figures 60 feet high at the entrance.

98. **Kordofan** is on the west of the White Nile. Its products are similar to those of Nubia. Horned cattle and camels are extensively reared. The population is estimated at 300,000.

99. **El Obeid** is the chief town.

100. **Darfur** is an extensive country on the west of Kordofan. Its products are wheat, millet, rice, maize, tobacco, and dates. Horses, cattle, sheep, and camels are numerous. Its population is estimated at 1,500,000.

101. **El Fasher** and **Kobbe** are the chief towns.

ABYSSINIA.

102. Abyssinia, or Habesh, includes part of ancient Ethiopia. It was once the seat of an empire considerably advanced in civilization. It now consists of several petty states under the protection of Italy.

103. Abyssinia lies south-east of Nubia, and has an area of 240,000 square miles. The surface is generally elevated, consisting of table-lands and mountains, diversified by deep river valleys. The coast (which belongs to Italy) is low, hot, and unhealthy.

Amba H41, one of the highest mountain peaks, has an elevation of 15,000 feet.

The chief rivers are the *Bahr-el-Azrek* or *Blue Nile*, the *Tacaze* or *Atbara*, and the *Hawash*. *Lake Dembea* is in the basin of the Blue Nile.

104. The climate and vegetation vary according to the elevation. Agriculture receives little attention. The pro-

ducts are coffee, cotton, millet, indigo, and acacia gums. The rearing of cattle, sheep, and goats is the chief industry.

105. The population is about 7,000,000. There are many Arabians, Jews, and negro slaves. A very corrupt form of Christianity prevails.

106. The most important states in Abyssinia are *Amhara*, *Tigré*, and *Shoa*. *Shoa* was formerly ruled by King Theodore, who, by imprisoning British subjects, provoked a war with Great Britain in 1868, which cost him his life.

107. The towns are small. **Gondar** is the capital of Amhara; **Adowa**, of Tigré; and **Licheh**, of Shoa. **Axum**, in Tigré, is noted for its huge obelisks, and for the *Axum Chronicle*, an ancient historic record. **Massowah** (10,000), the principal sea-port, belongs to Italy, and has considerable trade with the interior.

THE SAHARA.

108. The Sahara, or Great Desert, is situated between the parallels of 15° and 30° north latitude, extending from the Atlantic Ocean to the Valley of the Nile. It covers an area equal to two-thirds of the Dominion of Canada.

109. The Sahara is mostly table-land, from 1000 to 2000 feet in height. The surface consists of rock or hard gravel, varied in some parts with loose white sand which the winds move about in vast overwhelming clouds. Owing to the prevalence of easterly winds, the sand increases in depth towards the Atlantic. Along the north are numerous salt lakes, which receive the streams from the Atlas Mountains.

110. In the west of the Sahara there is said to be an extensive tract lower than the level of the ocean. Some hold that this was once occupied by a large sea which communicated with the Atlantic by a narrow channel.

111. Rain falls on the desert only at intervals of many years, and throughout a large portion of it vegetable and animal life is unknown. Other parts of this great desert yield dry stunted herbage, on which sheep, goats, and camels are able to subsist.

112. Fertile spots, called **oases**, watered by springs, occasionally relieve the desolation of this wide waste. The oases are covered with grass and groves of date-palm, and some of them sustain a large population. They are most numerous and fertile in the eastern part of the desert.

113. Traffic is carried on over the desert by caravans, consisting of a large company of men and camels. The cases afford resting-places. The distance between them makes a journey of about ten days.

Travellers sometimes arrive at an oasis only to find its springs dried up. Weary, thirsty, and discouraged, they are unable to proceed, and their bleached bones amid the burning sand tell of their sad fate to those who come after them. They also suffer greatly from exposure to hot winds and moving sands.

QUESTIONS.—On what causes does the intense heat of the Sahara depend? Why is there no rain?



CARAVAN.

WESTERN AFRICA.

114. Western Africa comprises the coast region from the Sahara to Cape Frio.

The surface along the coast is low; in the interior are mountain-ranges. The climate is very hot and unhealthy. The soil is very fertile; the vegetation is luxuriant and varied. Some of the more important forest trees are the baobab, gum-acacias, and various kinds of palms.

115. The products are sugar-cane, coffee, rice, maize, tobacco, cotton, ginger, palm-oil, palm-kernels, ground-nuts, pea-nuts, tropical fruits, gums, india-rubber, and dye-woods.

116. Nearly all the inhabitants are negroes. They live in mud huts, and most of their wealth consists of cattle, sheep, and poultry.

117. The greater part of Western Africa is divided amongst the French, the British, the Germans, and the Portuguese. The principal native states are *Liberia*, *Ashantee*, and *Dahomey*.

The chief exports of Western Africa are palm-oil, palm-kernels, ground-nuts, india-rubber, gums, and ivory.

118. A large part of Western Africa, including most of the above-named countries, has long been known by the name of Guinea, which is divided by the Equator into *Upper* and *Lower Guinea*. Portions of the coast of Upper Guinea are called the *Grain Coast*, *Ivory Coast*, *Gold Coast*, and *Slave Coast*.

119. The French Possessions are the colony of *Senegal*, and extensive territory on the north of the Congo River.

Senegal, or *Senegambia*, is a vast territory comprising the basin of the Senegal River, and extending inward to the Upper Niger.

St. Louis (20,000), at the mouth of the Senegal, is the capital.

Dakar, 150 miles to the south, near Cape Verde, is an old French trading-port. These places are connected by railway. A railway has been begun at *Medina*, on the Senegal, to connect the navigation of that river with the Niger.

120. The British Possessions include *Sierra Leone*, *Gambia*, *Gold Coast*, and *Lagos*. The British also hold an extensive protectorate on the coast east of *Lagos*, and extending on the Niger and Benue Rivers.

121. *Sierra Leone* is a small country, purchased by Great Britain in 1787 as a home for liberated slaves. The climate is hot, humid, and unhealthy. It has been designated the "White Man's Grave." The population is about 75,000.

Freetown (5000), the capital, has a good harbor, and is frequented as a coaling-station.

122. *Gambia*, at the mouth of the Gambia River, was formerly included in *Sierra Leone*.

Bathurst (6000) is the chief town.

123. The *Gold Coast*, a British Crown Colony, extends along the Gulf of Guinea for about 350 miles. The area is about 15,000 square miles. The population is estimated at 1,406,000.

Accra (15,000) is the capital. *Cape Coast Castle* is a fortified town.

124. **Lagos** comprises an island and a district of the mainland along the Slave Coast. The population is about 100,000.

Abeokuta, in the interior, is the centre of trade.

125. The **Republic of Liberia** was founded, in 1822, by benevolent persons in the United States of America, as a home for liberated slaves. It has an area of about 14,500 square miles. The population is about 1,000,000. Palm-oil and sugar are the chief products.

Monrovia is the capital.

126. The **German Possessions of West Africa** comprise the protectorates of *Togo-land* and the *Cameroons*.

Togo-land, on the Slave Coast, has an estimated population of about 80,000.

Little Popo is the capital.

Cameroons is situated on the Bight of Biafra, between the British possessions of the Niger and the French Congo district. The area is about 115,000 square miles. It has a population of 500,000.

The town of **Cameroons** is the capital.

127. The **Portuguese Possessions**, comprising the colony of Angola, in Lower Guinea, extend from the mouth of the Congo to Cape Frio. The coast is low, hot, and unhealthy; but the table-lands of the interior have a temperate and healthful climate, and a soil well adapted to agriculture.

St. Paul de Loanda, Benguela, and Mossamedes are the chief towns. **St. Paul de Loanda** and **Mossamedes** have excellent harbors.

128. **Ashantee and Dahomey**, north of the Slave Coast, are native negro kingdoms. The soil is fertile, producing grain, sugar-cane, tobacco, and tropical fruits. The natives are well-formed and brave in war, but they are uncivilized, cruel, and superstitious. They make war on neighboring tribes to take captives to sell as slaves, and they offer human victims in sacrifice.

Coomassie, the capital of Ashantee, a mud-built town, was captured and burned by General Wolseley in 1874.

Abomey is the capital of Dahomey.

THE SOUDAN.

129. The **Soudan** comprises that part of Africa which lies directly south of the Sahara and east of the sources of the Niger. It is divided into many small kingdoms, peopled by negroes of the purest type, and governed by despotic rulers. Mohammedanism is the prevailing religion.

The inhabitants are further advanced in civilization than those of most African states. There are many large

cities; and much attention is given to the cultivation of the soil, and to the rearing of cattle, horses, and camels. The slave-trade, however, prevails throughout the country.

130. The products include durrh, maize, cotton, and various other crops. Ivory and ostrich feathers are exported. The western portion of the Soudan is best supplied with rain, and is the most populous.

131. The principal states of the Soudan are *Wadai, Bagharmi, Adamawa, Bornu, and Ganda*.

Towns.—132. **Kuka** (50,000), the capital of Bornu, on the west of Lake Chad, is the centre of the caravan trade across the desert from Tripoli.

Timbuctoo, on the Niger, has long been an important commercial depôt. **Sokoto** also is an important trade centre.

THE CONGO FREE STATE.

133. This state was organized and placed under the King of Belgium as its ruler by an international treaty of several European powers in 1885. It has but a few miles of coast on the north of the Congo River; but it spreads out in the interior, extending easterly to Lake Tanganyika, south to Lake Bangweolo, and comprising a large part of the Congo basin. It is the largest country in Africa. The area is estimated to be 1,000,000 square miles, and the population 27,000,000.

134. The navigation of the Congo is interrupted where the river passes from the interior table-lands to the lowland coast country, but above Stanley Pool there is uninterrupted navigation, about 1000 miles, to Stanley Falls.

135. The resources of the country are very great, but are yet undeveloped.

The chief exports are palm-oil, india-rubber, ivory, gum, copal, and ground-nuts. By the terms of the international treaty, trade is free to all nations. The sale of intoxicating drink to natives is forbidden, and the slave-trade is prohibited.

136. **Boma**, a small town on the right bank of the Congo, near its mouth, is the capital.

Leopoldville, Equatorville, and Aruwimi are the chief places.

137. The country is not a dependency of Belgium, but is placed under the personal jurisdiction of King Leopold.

138. **Uganda** is a large and populous native state, situated on the north-west of Lake Victoria Nyanza. The people are Mohammedans. The king is a despotic ruler, but is greatly influenced by Arab slave-holders. Ivory and other products are exported by the caravan route to Zanzibar.

Mungo is the capital.

EASTERN AFRICA.

139. Eastern Africa consists of the coast region from the Strait of Bab-el-Mandeb to Delagoa Bay. The maritime portion is low, hot, and unhealthy; inland is the more elevated and rugged margin of the interior table-land, forming a mountain range which contains the highest peaks of Africa.

140. This region is fruitful in tropical produce, including coffee, rice, gum, copal, india-rubber, and fruit.

Eastern Africa is divided amongst the British, the Germans, and the Portuguese.

141. British East Africa occupies about 700 miles of the coast between the River Tana on the north and the German territory on the south, and extending inland to Victoria Nyanza. The area is estimated to be about 150,000 square miles. The British East Africa Company carries on an extensive trade in the country. *Mombasa* and *Wagna* are important trading-ports.

Great Britain also claims a large inland territory, sometimes called *Nyassaland*, of undefined limits, around Lake Nyassa. There are important English mission settlements in the territory, and an English Company has several trading-stations. The Company also maintains a steamer on Lake Nyassa. The possessions of the Sultan of *Zanzibar* are under the protection of Great Britain.

142. The German Possessions comprise the territory between Cape Delgado on the south and the British Possessions on the north.

Bagamoyo, the chief sea-port, is the starting-point of the route to Ujiji on Lake Tanganyika, 600 miles distant. Negro porters are employed to carry goods, as beasts of burden cannot be used on account of the tsetse fly.

143. The Portuguese claim the territory between Cape Delgado and Delagoa Bay.

Mozambique, on a small island, is the capital. *Quilimane* is the most important sea-port.

Steamers go up the Zambesi and its tributary the Shire for about 250 miles to Murchison Falls. A steamer has also been placed on the river above the falls, affording communication with the mission-field in the Nyassa Lake Region.

SOUTHERN AFRICA.

144. Southern Africa consists of that portion of the continent south of the Zambesi River. The interior is elevated and dry; the coast is well watered, mild, and healthful. On the north is the great Kalahari Desert. The Orange River and its tributary the Vaal are the principal rivers.

145. The Kalahari Desert is a vast tract of country, 3000 feet above the sea-level, nearly destitute of rain, but having considerable vegetation at certain seasons.

146. The western side of South Africa, extending inland to 20° east longitude, comprising *Damaraland* and *Great Namaqualand*, belongs to Germany. The remaining countries are either British possessions, or are under British influence. The principal divisions are *Cape Colony*, *Natal*, *Basutoland*, *Bechuanaland*, *Orange Free State*, *South African Republic*, *Matabeleland*, and *Mashonaland*.

CAPE COLONY.

147. The name of this colony is derived from a bold headland on the south-west, called the Cape of Good Hope.

The Cape was colonized by the Dutch East India Company in 1652. It was taken by the British in 1806, and confirmed to them by treaty in 1815. The British have from time to time extended their bounds towards the north and east, forming one of the largest and most important colonies of the empire.

148. Cape Colony comprises nearly all that part of the continent on the south of the Orange River. It also includes *Griqualand West*, on the north of that river, and the District of *Walfisch Bay* in *Damaraland*. *Transkei*, on the east of the colony, is a dependency.

149. The Cape of Good Hope, 1000 feet high, is the extremity of a peninsula. Cape Agulhas is the most southerly point.

150. The area of the colony is about 217,895 square miles.

151. The surface is varied. The country rises from south to north by a succession of terraces, reaching an extreme elevation of about 8500 feet; it then descends gradually to the Orange River. At certain places the edges of the terraces are broken by gaps called *kloofs*. The highest plains are called *karroos*.

152. The climate is mild and healthy. The eastern and southern parts of the country are well watered and fertile, yielding various kinds of grain and fruit. Horses, sheep, and cattle are extensively reared. Wool and wine are the most important products. Ostrich-breeding is becoming an important business.

In the dry season the karroos are parched deserts; but when the rains begin, they are soon clothed with rank grass, mingled with gorgeous and sweet-scented flowers. Geraniums and heath grow with the luxuriance of common weeds. Troops of buffaloes, antelopes, and ostriches share the bounty of the season with the flocks and herds of the colonists.

153. The chief minerals are diamonds, coal, and copper.

The District of *Griqualand West* is the most noted diamond-field in the world. The diamonds are obtained from a blue clay. The

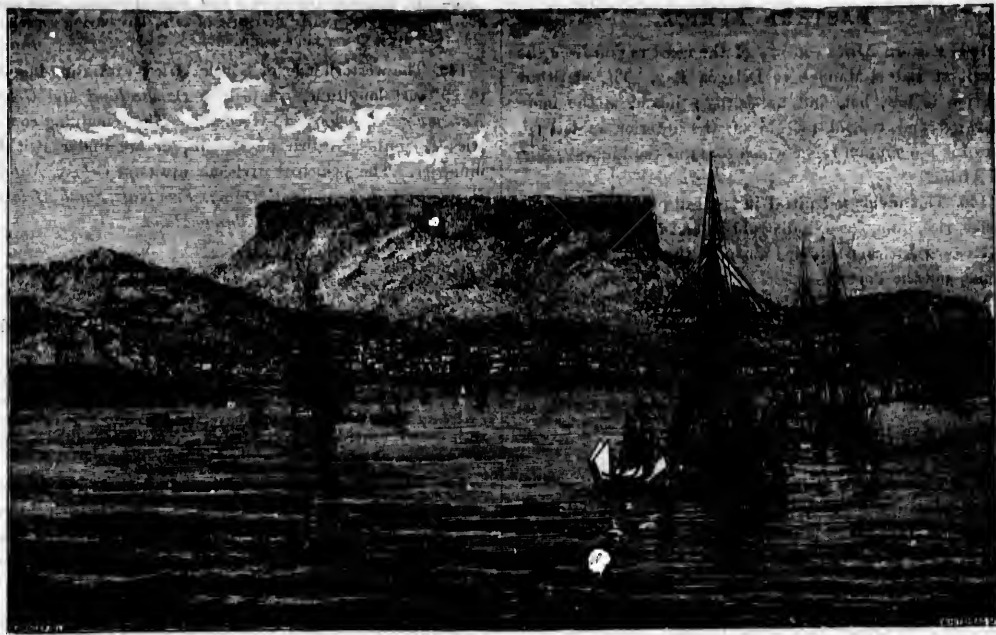


TABLE BAY AND MOUNTAIN.

diggers are carefully watched by the officers of the Company, to prevent them from stealing the diamonds.

154. The population of Cape Colony and its dependencies is about 1,429,000. About 400,000 of these are Europeans, principally English and Dutch; the rest are Kaffirs, Zulus, and Hottentots.

Towns.—155. **Cape Town** (70,000), the capital, is situated on Table Bay. Immediately behind the town is Table Mountain. The city is remarkable for its numerous flower gardens.

Port Elizabeth (16,000) has a large foreign trade.

Kimberley (20,000) is a rapidly-growing town in the diamond region. It is connected by railway with Cape Town, 650 miles distant, and also with Port Elizabeth.

The other important towns are *Grahamstown* (8000) and *Beaconsfield* (22,000).

156. The leading exports are diamonds, wool, goat's hair, copper ore, ostrich feathers, hides, wine, and grain.

157. Cape Colony has over 1700 miles of railway.

158. The Legislature consists of a Legislative Council and a House of Assembly.

NATAL.

159. This country was discovered by the Portuguese on Christmas-day (*Dies natalis*) 1497. It was formed into a British colony in 1843 as a part of Cape Colony, but was made a separate colony in 1856.

160. The surface, as in Cape Colony, rises in terraces towards the interior. The climate is hotter and more humid than in Cape Colony.

161. The *Drakenberg Mountains* form the western boundary of Natal, separating the country from the Orange River Republic.

162. The area of Natal is 21,150 square miles.

163. The low coast has a hot but healthy climate. Its products are sugar, coffee, ginger, indigo, arrowroot, and pine-apples. The middle country is adapted to wheat and other cereals. The highland districts are suited to grazing, and sheep-farming is the chief occupation. The cultivation of tea has been successfully introduced.

164. There are extensive coal-fields in the north.

165. The population of Natal is 481,361; of these, 410,000 are Kaffirs.

166. The Kaffirs are a tall, well-formed race, probably of mixed

origin, and though belonging to the great Negro family, they have but few of the negro features. They are increasing rapidly in number, and are making much progress in wealth and civilization. The Kaffirs are a pastoral people.

Towns.—167. **Pietermaritzburg** (16,000), about 50 miles inland, and 2200 feet above the sea, is the capital. It is connected with D'Urban by railway.

Port Natal or **D'Urban** (17,000) is the only port. The exports are sugar, wool, coffee, ivory, hides, and ostrich feathers.

168. The **government** consists of a Lieutenant-Governor, an Executive Council, and a Legislative Council.

169. **Zululand** is a British Protectorate attached to Natal. It has an area of about 9000 square miles, and a population of 50,000. The Zulus belong to the Kaffir family, but have more of the negro features than the true Kaffirs. They are intelligent, hospitable, and faithful, but possessed of strong passions, which in time of war overcome their milder impulses, and render them cruel savages. In a war with the British in 1879 the Zulus showed great fighting ability. They were finally defeated, and their chief, Cetewayo, was taken prisoner. Since this event they have become more pacific, and have devoted themselves to the care of their cattle and the cultivation of their fields.

BASUTOLAND, BECHUANALAND, THE DUTCH REPUBLIC, ETC.

170. **Basutoland** is a British Crown Colony, situated on the highlands on the north-east of Cape Colony. It is well watered, has a healthy climate, and is said to be the best grain-producing country of South Africa.

171. The population is estimated at 180,000. The Basutos are brave and energetic. Through the efforts of missionaries, they have made much progress in civilization. Their wealth consists largely in cattle and sheep. Grain, wool, and hides are the chief exports.

172. **Bechuanaland** is situated on the table-land on the north of Cape Colony. The southern portion forms a Crown Colony of Great Britain; the northern portion is a British Protectorate.

173. The country is for the most part adapted to grazing. The western portion is within the Kalahari Desert. The inhabitants, numbering about 162,000, have made considerable progress in civilization.

174. **Kuruman**, in the south, is an important mission station. **Shoosahong**, in the north-east, is a native town of huts.

175. The **Orange Free State**, between the Orange River and the Vaal, is a republic founded by Dutch boers, who retired from Natal when it became a British colony.

176. The country consists chiefly of elevated plains. The area is about 41,500 square miles, and the population is 150,000. About one-half of the population belong to native tribes. Grain is cultivated, but sheep-raising is the chief industry.

177. The roads through the country are very bad. Ox-teams are the chief means of conveying goods.

178. **Bloemfontein** is the capital and principal town.

179. The **South African Republic** or the **Transvaal** is a large country between the Limpopo River on the north and the Vaal on the south. It has an area of about 121,854 square miles; and the population is estimated at 610,000. About 500,000 are of the native tribes.

180. The eastern and central portions are mountainous. The climate and soil are adapted to grain and pasturage. Cotton and coffee are raised in the north.

181. The rearing of sheep and oxen and ostrich-breeding are the most important industries. In the eastern part of the country stock-raising is impracticable on account of the tsetse fly.

182. **Pretoria** is the capital. A railway under construction will connect the town with Delagoa Bay. **Johannesberg** (30,000), near the gold-fields, is the largest town.

The country was annexed to Cape Colony in 1877, but became independent again in 1882. Great Britain maintains the right of control over the foreign relations of the Dutch Republics.

183. **Matabeleland** and **Mashonaland**, situated on the north of the South African Republic, are under British influence.

184. The **Hottentots** occupy a large country on the west of the Bechuana. They consist of several tribes, some of which are very degraded. They have a very curved spine and a yellowish-brown complexion, and in some of their features they resemble the Mongolians. Some of them subsist on the produce of their flocks, others on roots, gums, and insects. Their villages, called *kraals*, are collections of huts made of poles, earth, and skins.

QUESTIONS.—1. What reasons may be given in explanation of the fact that the nations of Africa have less power and influence than those of Europe?

2. Compare Africa and South America in respect to heat, humidity, and vegetation, and account for the difference.

MAP EXERCISES.

1. Point out and describe the coast waters, capes, islands, mountains, rivers, and lakes of Africa. Point out the principal countries of Africa, and give their boundaries. Point out the principal cities, and give their situation.

2. Draw a map of Africa.

OCEANIA.

1. **Oceania** is the name given to the sixth great division of the world. It comprehends the archipelagoes and islands of the Indian and Pacific Oceans. The *Bonin Islands* on the north, *Easter Island* on the east, the *Auckland Islands* on the south, and *Sumatra* on the west, form the extremes.

The entire area is estimated at rather more than half the size of North America, and the population at 42,500,000.

2. Oceania has been variously divided. It may be conveniently considered under the three divisions—*Malaysia*, *Australasia*, and *Polynesia*.

MALAYSIA.



DATES, PINE-APPLE, AND COCOA-NUT.

History.—3. Malaysia obtained its name from its inhabitants, the majority of whom belong to the Malay race. It is sometimes called the *East Indian Archipelago*.

Early in the seventeenth century a powerful company was formed in Holland for the purpose of carrying on trade in the spices, fruits, cabinet-woods, and other rich products of the East

India Islands. After many contests with native princes, Dutch power was established and extended, until a large part of the archipelago was brought under the dominion of Holland.

Position.—4. The East Indian Archipelago is situated on the south-east of Asia, extending towards New Guinea and Australia, and is wholly in the Torrid Zone.

Size, Surface, &c.—5. The archipelago includes some of the largest islands on the Earth. The entire area is about one-fifth that of the Dominion of Canada. Most of the islands are mountainous and of volcanic origin. Active volcanoes are numerous, and earthquakes are of frequent occurrence.

Climate and Products.—6. The climate is hot and humid; but the tropical heat is tempered by sea breezes.

Dense forests, second in luxuriance only to those of Brazil, clothe the interior. They yield ornamental and dye woods, caoutchouc, gutta-percha, resins, and gums.

The cultivated products are rice, maize, millet, coffee, tea, sugar-cane, tobacco, cotton, nutmegs, cloves, and every variety of tropical spice and fruit.

Sago, the starchy pith of a kind of palm, the cocoa-nut, banana, and yam are much used as food on some of the islands.

7. The mineral products include gold, silver, tin, copper, iron, coal, and the diamond.

Animals.—8. The wild animals are similar to those in the south-east of Asia, including the elephant, tiger, rhinoceros, various kinds of monkeys, and birds of beautiful plumage. The ox and the buffalo are used for labor.

The shores are covered with shells of beautiful and varied tints. Valuable pearls are obtained on the coasts of the easterly groups.

Inhabitants.—9. The number of the inhabitants is not accurately known, but is supposed to exceed 37,000,000.

The majority of the inhabitants are Malays, some of whom are considerably civilized.

The Malays are fond of sea-faring life, and as pirates they were once the terror of merchantmen.

Papuan negroes are numerous; they are much inferior to the Malays. There are also many European colonists, by whom Christianity has been extensively introduced. Mohammedanism is the prevailing religion.

nces, Dutch
part of the
d.

is situated
ew Guinea

es some of
a is about
the islands
volcanoes
nt occur-

hot and
reezes.

those of
l and dye

let, coffee,
and every

t, banana,
pper, iron,

those in
t, tiger,
beautiful
r.

ried tints.
groups.

ts is n +
,000.

whom are
they were

or to the
y whom
nedanism



English Miles
 0 500 1000
 Scale of 860 Miles to an Inch
 One Square Inch represents 723 times the Area of One



English Miles
 500 1000 1500 2000
 Scale of 660 Miles to an Inch
 Square Inch or twice 225 times the Area of the Sq. Inch of Map!

Islands.

groups of islands

Sumatra

Islands, and

Sunda

islands *B*

wood, Florida

12. The

cas belong

islands are

rajahs. The

parts are

to Portugal

Name
SUMATRA
JAVA.....
BORNEO .
CELEBES
MOLUCCA
PHILIPP

13. The

sula of

Equator

sand miles

miles in

14. Loft

peaks. *K*

15. The

ivory, ca

The ne

whom the

16. Pa

portant

17. J

is separ

is over

and mo

which f

Volcan

size. In

Valley of

gases whi

18. J

Malays

pelago.

vegetal

The

Islands.—10. The following are the principal islands and groups of islands in Malaysia:—

Sumatra, Java, Borneo, Celebes, the Moluccas or Spice Islands, and the Philippine Islands.

Sunda Isles.—11. *Sumatra, Java, and the smaller islands Banca, Biliton, Bali, Lombok, Sumbawa, Sandalwood, Flores, and Timor, are known as the Sunda Isles.*

12. The **Sunda Isles, Borneo, Celebes, and the Moluccas** belong principally to Holland. Portions of some of these islands are still under the government of native chiefs or *rajahs*. The **Philippines** belong mostly to Spain, but some parts are occupied by native tribes; **Timor** belongs partly to Portugal and partly to Holland.

Name.	Area in square miles.	Population.	Chief Cities.
SUMATRA	168,000	2,500,000	Padang, Bencoolen, Palembang.
JAVA	51,000	22,000,000	Batavia.
BORNEO	300,000	2,000,000	Pontianak, Banjarmasin, Sarawak.
CELEBES	66,750	4,000,000	Macassar.
MOLUCCAS	35,000	796,000	Amboyna, Neira.
PHILIPPINES	115,000	6,160,000	Manila.

SUMATRA.

13. This island, separated from the south-eastern peninsula of Asia by the Strait of Malacca, is divided by the Equator into two nearly equal portions. It is over a thousand miles in length, and is about two hundred and sixty miles in extreme breadth.

14. Lofty mountains extend through the island, including many volcanic peaks. *Kassoumba* is 15,000 feet high.

15. The **exports** are spices, gums, fruit, rice, cotton, coffee, ivory, cabinet-wood, and edible birds' nests.

The northern part of the island is ruled by native chiefs, with whom the Dutch frequently wage war.

16. **Padang** and **Bencoolen**, on the west coast, are the most important Dutch towns. **Palembang** is a river-port on the east.

JAVA.

17. Java, "the Queen of the Eastern Archipelago," is separated from Sumatra by Sunda Strait. The island is over six hundred and fifty miles long. It is a hilly and mountainous country, broken by deep gorges, through which flow rushing streams.

Volcanoes are more numerous than in any other country of the same size. In the interior is an oval valley, half a mile in circuit, called the *Valley of Death*, in which no animal can live, on account of the poisonous gases which escape from the surface.

18. Java is the most fertile and populous island of Malaysia, and it has been called the granary of the Archipelago. It is noted for the abundance and variety of its vegetables, fruits, and flowers.

The **forests** of Java contain the famous *upas tree*, whose

juices are very poisonous. A mistaken notion formerly prevailed that no animal or plant could live near it.

19. Java is a prosperous country, and has a large trade with Holland, Great Britain, China, and Japan. Good roads extend through the island, and some of the principal places are connected by railway. The inhabitants are more highly civilized than those of the adjoining islands. About 48,500 are Europeans.

20. The **exports** include sugar, coffee, indigo, tea, and rice; the **imports** consist of various kinds of manufactured goods.

21. **Batavia** (100,000), in the north-west, is the capital of the Dutch possessions, and the greatest commercial town in Malaysia. **Samarang** and **Sourabaya** are important towns on the north coast.

BORNEO.

22. Borneo, separated from Java by the Java Sea, and from Celebes by the Strait of Malassar, is divided into two nearly equal portions by the Equator. It is eight hundred miles in length, and is third in size of the islands of the world.

The lowlands are very unhealthy for Europeans.

23. The **vegetation** of Borneo is very luxuriant. Spices, fruits, and gums are abundant and of superior quality. The forests abound in wild animals and birds; the rivers in crocodiles; and the coast waters in fish.

24. The **minerals** include diamonds, gold, antimony, iron, tin, and coal.

25. **Pontianak** and **Banjermassin** are the principal Dutch towns. **Borneo** is the capital of a native state in the north-west.

26. **Sarawak**, a native state in the west of the island, was ruled from 1842 to 1858 by Sir James Brook, a British subject, who suppressed piracy and greatly improved the condition of his subjects. The present ruler is a nephew of Sir James.

27. **Labuan**, a small island on the north-west, containing valuable coal mines, belongs to Britain.

CELEBES.

28. This island is remarkable for its irregular outline, having four peninsulas branching off from a common centre.

29. The **surface** is varied with mountains and valleys. The peak of Bonthaim is 9788 feet high.

30. The **soil** is very fertile. Horses, cattle, buffaloes, sheep, swine, and goats are numerous. The **pearl fisheries** on the coasts are valuable.

31. **Macassar** (20,000), the capital, exports rice, sandal-wood, ebony, tortoise-shell, spices, and other products.

THE MOLUCCAS.

32. This group comprises *Gilolo, Ternate, Ceram, Bourou, Amboyna, the Banda Isles*, and other small islands between Celebes and New Guinea.

33. These islands yield the finest cloves, nutmegs, and other spices. On the coasts are pearl and trepang fisheries.

34. **Amboyna**, an important commercial town, on the island of the same name, is the capital.

THE PHILIPPINE ISLES.

35. The **Philippine Isles** were discovered by Magellan in 1521. They were named for Philip II. of Spain.

The Philippines include about 1200 islands, of which the principal are *Luzon*, *Mindanao*, *Palawan*, and *Mindoro*. Luzon comprises over one-third the whole area. The islands are mountainous, and have numerous volcanoes. Hurricanes and earthquakes are frequent. The *Sulu Isles* belong to Spain.

36. The soil is very fertile, and the vegetation luxuriant. Tobacco of the finest quality, sugar, rice, cotton, indigo, coffee, and various kinds of spice and fruit are among the products. Next to Cuba, the Philippines are the most important colony of Spain.

37. **Manila** (270,000), on Luzon, is the capital. It has an extensive trade with Great Britain and the United States, exporting the various products of the country, and importing manufactured goods. Manila cigars are very celebrated.

AUSTRALASIA.

38. Australasia comprises the islands on the south-east of the Indian Archipelago. They are situated south of the Equator, between the Indian Ocean and the 180th meridian.

39. Australasia signifies "Southern Asia." Some geographers have given the name *Melanesia*, or "Black Asia," to this part of Oceania, on account of the color of many of the native inhabitants.

Australasia is supposed to comprise an area equal to the continent of Europe. The population is sparse, being computed at 4,800,000.

The aborigines consist of two races, Papuan Negroes and Malays.

40. The four principal islands of Australasia are *Australia*, *Tasmania* or *Van Diemen's Land*, *New Zealand*, and *Papua* or *New Guinea*. The first three belong to Great Britain.

Australasia also comprises many archipelagoes and small islands, as,—

Arru, *Timor Laut*, *Frederick Henry*, *Louiside Archipelago*, *Bismarck Archipelago*, *Solomon Islands*, *Queen Charlotte Islands*, *New Hebrides*, *New Caledonia*, *Norfolk*, *Auckland Islands*, *Antipodes*, *Chatham*, and *Macquarie*.

AUSTRALIA.

History.—41. The Dutch discovered this island-continent in 1606. They afterwards explored various parts of the coast, and gave the country the name of *New Holland*.

In 1770, Captain Cook visited Australia, and took formal possession of the country in the name of his sovereign, George III. of Great Britain. He called the place where he landed *Botany Bay*, on account of the profusion of flowers in its neighborhood.

From Cook's report, the British Government considered Botany Bay would be a suitable place for a convict settlement. Accordingly (in the year 1788) 757 criminals, of whom one-fourth were women, were taken from the jails and transported to Australia. The governor, Captain Phillip, his officers and soldiers, increased the number of colonists to 1030.

This first colony was established 18 miles north of Botany Bay, at Sydney, the present capital of New South Wales. During the succeeding fifty years, 70,000 criminals were transported to this country. The last convict ship arrived in 1838. Many of the criminals, on the expiration of their term, settled in the country and became respectable inhabitants. The first colonists, receiving all their supplies from England, often suffered greatly for want of provisions.

The discovery of gold in 1851 resulted in the rapid colonization of Australia, and in the development of its resources.

Position.—42. Australia has the *Arafura Sea* and *Torres Strait* on the north; the *Coral Sea* and the *Pacific* on the east; *Bass Strait* and the *Pacific* on the south; and the *Indian Ocean* on the west.

The northern portion, including about one-third the area, is in the *Torrid Zone*; the remainder is in the *South Temperate Zone*. S. lat. 10° 40'—30° 8'; E. lon. 113°—153° 39'.

Australia is about 1600 miles from the nearest point in Asia.

Coast.—43. In the regularity of its coast line, Australia resembles the other southern continents, Africa and South America. The most important indentations are the *Gulf of Carpentaria* on the north, and the *Great Australian Bight* nearly opposite. The other coast waters are *Port Jackson*, *Port Phillip*, *Port Elliot*, *St. Vincent Gulf*, *Spencer Gulf*, *Hamelin Harbor*, *Cambridge Gulf*, and *Van Diemen Gulf*.

The principal capes are *York*, *Wilson*, *Leenwin*, and *Londonderry*. *York Peninsula* lies to the east of the *Gulf of Carpentaria*.

The principal coast islands are *Bathurst*, *Melville*, *Grote Eiland*, *Wellesley*, *Great Sandy*, *Moreton Island*, *King's*, and *Kangaroo*.

The total length of coast line is estimated at 10,000 miles. The *Great Barrier Reef* extends from Cape York south-easterly for about 1200 miles, with an average distance of 30 miles from the shore. It is a great wall of coral of varying breadth, rising perpendicularly from the depths of the ocean to the surface. Whilst the foaming breakers are dashing against the outside of the reef, within is smooth sea. A few openings occur, which allow ships to pass through.

Area.—44. Australia is the largest portion of land to which the term *island* is applied. It is sometimes called a continent. It is about five-sixths the size of Europe, or nearly equal to the Dominion of Canada.

The area is estimated at 2,983,400 square miles; or it equals a square of 1727 miles. The extreme length east and west is about 2500 miles, and the breadth north and south 2000 miles.

Surface.—45. The interior of Australia is but imperfectly



ANIMALS OF AUSTRALIA.

explored. The surface presents less diversity than the other great divisions. The chief elevations are a low mountain-range near the east side, and a low table-land on the west. The centre is a vast low plain.

The principal mountains are the *Liverpool*, *Blue Mountains*, and *Australian Alps*, near the east and south-east coasts. They are generally very rugged. The average height is little over half a mile. There are no volcanoes.

Mount Kosciusko (7308 feet), in the south-east, is the highest peak. It is covered with snow a large part of the year.

Rivers.—46. Rivers are less numerous than in any other great division. They vary greatly in volume, according to the character of the season. Many of the rivers are sometimes reduced to a succession of pools in the deeper parts of the channel. In the rainy season they are swollen very rapidly, and some have been known to rise over 50 feet above their ordinary level.

The **Murray**, in the south-east, and its tributaries the **Darling** and **Murrumbidgee**, are the largest rivers. The mouth of the Murray is very shallow.

The other important rivers are the *Victoria*, *Flinders*, and *Mitchell* in the north; the *Burdekin*, *Fitzroy*, *Brisbane*, *Clarence*, and *Hunter* in the east; and the *Stean*, *Murchison*, *Gascoyne*, *Ashburton*, and *De Grey* in the west.

Lake Alexandrina is a large expansion of the Murray, near its

mouth. There are several salt lakes and marshes. **Lake Torrens**, 120 miles long, is the largest.

Soil.—47. The coast country is generally fertile. A large part of the interior is a sandy arid desert.

Climate.—48. The northern part of Australia has a hot climate; the south is temperate. It is generally healthy. Irregularity in the supply of rain is the principal defect. Years of drought are followed by overwhelming floods of rain.

In the southern part of Australia, many things are just the opposite of what they are with us. The sun is on the north, the cold winds come from the south, and it is midsummer at Christmas.

During the summer an intensely hot wind, accompanied with fine dust, occasionally blows from the interior.

Minerals.—49. Australia is abundantly supplied with the most important minerals—gold, coal, iron, copper, lead, and zinc.

Since 1851, the colonies of Victoria and New South Wales have been among the most famed gold-producing countries in the world. Previous to this date, farmers had been turning up the gold-bearing quartz with their ploughshares, and building it into their garden-walls, in entire ignorance of its value!

Plants.—50. Most of the native trees and plants of Australia are peculiar to it and the neighboring islands. The trees do not generally form dense forests, but are scattered as

in a park. They are chiefly evergreens, with scanty foliage, and they have not the verdure of our trees. Gum trees, acacias, and casowary trees are some of the most important. There are no native fruits, except small berries and a kind of chestnut.

The various kinds of grain, fruit, and vegetables cultivated in Europe and America have been successfully introduced. Cotton and the vine are important products.

Animals.—51. The native animals are also remarkably different from those of other parts of the world. Most of the quadrupeds are *marsupialia*, or pouched animals. The largest is the kangaroo, of which there are many species. The most remarkable animal for its odd appearance is the ornithorhynchus, or water-mole.

The dingo, or Australian dog, resembles the shepherd's dog, but has a bushy tail like the fox. It is very destructive to sheep.

The most remarkable birds are the lyre-bird, the emeu, and the black swan. The emeu is sometimes six feet in height.

The cow, sheep, horse, and other domestic animals, have been introduced by Europeans.

Sheep-farming is one of the leading industries in Australia. The number of sheep in the different provinces in 1888 was estimated at 82,000,000.

Inhabitants.—52. The population is about 3,000,000. The greater number are European colonists and their descendants.

The native Australians, sometimes called Papuan Negroes, are of the very lowest type of the human race, both physically and intellectually. They are of a sooty color, wear little clothing, live in holes in the ground, and subsist on roots and fish. They are rapidly decreasing. They are very skilful in throwing the boomerang.

Divisions.—53. Australia is divided into five colonies—*Queensland, New South Wales, Victoria, South Australia, and West Australia.*

Name.	Area in square m.	Population.	Capital.
QUEENSLAND.....	668,000	387,000	Brisbane (95,000).
NEW SOUTH WALES.	310,000	1,108,000	Sydney (390,000).
VICTORIA.....	88,000	1,134,000	Melbourne (489,000).
SOUTH AUSTRALIA..	903,000	318,000	Adelaide (123,000).
WEST AUSTRALIA..	1,057,000	43,000	Perth (10,000).

Government.—54. The government in the various colonies is similar to that of Canada. Each colony has a Governor, a Legislative Council, and an Assembly, with a responsible Executive Council.

55. Measures are being taken to unite the various colonies under one common government, similar to that of the Dominion of Canada.

QUEENSLAND.

56. This colony is situated in the north-east of the island, extending 1300 miles along the coast. It is a beautiful,

well-watered territory, yielding most of the products of tropical and temperate countries, including maize, sugar-cane, cotton, the vine, wheat, and potatoes.

57. The cotton of Queensland is of superior quality. Wool is the staple product. The number of sheep in the colony is estimated at 13,444,000.

58. The minerals are gold, copper, tin, quicksilver, and coal. Total value of exports, about \$30,000,000; imports, \$32,300,000.

59. Brisbane, the capital, has a beautiful situation at the mouth of Brisbane River.

NEW SOUTH WALES.

60. New South Wales, extending 700 miles along the east coast, is the oldest colony in Australia. The country is divided by mountain-ranges into an eastern and a western slope. The Blue Mountains are remarkable for their deep valleys enclosed by precipitous cliffs. New South Wales is rich in agricultural products and stock of all kinds.

61. Large quantities of wine are manufactured. Gold is one of the leading exports. Wool is the staple product. The number of sheep is estimated at 46,503,000.

62. The minerals are gold, silver, coal, iron, copper, and tin. Total value of exports, about \$101,400,000; imports, \$101,500,000.

63. Sydney, the capital, on Port Jackson, has a fine harbor and a large trade. Newcastle is near important coal-fields.

VICTORIA.

64. Victoria, the smallest but the most populous colony of the island-continent, is situated in the south-east. It is more mountainous than the other divisions, and is the leading gold-producing colony of Australia. It is noted for its rapid advancement, consequent on the discovery of gold in 1851.

65. Grain of all kinds is cultivated. Wool is the staple product. The number of sheep is estimated at 10,818,500.

66. The value of the gold obtained from 1851 to the end of 1877 is estimated at \$933,500,000. Silver, copper, tin, and antimony are obtained in considerable quantities. Total value of exports, about \$67,300,000; imports, \$116,500,000.

67. Melbourne, on the Yarra-Yarra, eight miles from Port Philip, is the capital. It is the largest city in Australia. Geelong is an important commercial city. Ballarat and Castlemaine are in the mining districts.

SOUTH AUSTRALIA.

68. This colony includes the entire centre of Australia, from north to south. A large part of the interior is a barren desert. The south is very fertile, yielding grain, grapes, olives, and other products.

Cattle, horses, and sheep are numerous, the sheep being estimated at 7,254,000.

69. The leading exports are breadstuffs, wool, copper, and wine. The copper-mines of *Mounta, Wallaroo, and Burra-Burra* are very rich. Exports, \$34,000,000; imports, \$23,300,000.

70. Adelaide, the capital, is situated on the Torrens, seven miles from Port Adelaide.



SYDNEY.

WEST AUSTRALIA.

71. This colony was formerly called Swan River Settlement. Its length from north to south is about 1600 miles. The inhabitants occupy the country along the western coast. The interior is an arid, sandy desert. The products are wheat, the vine, and the olive. Sheep-raising is the main industry.

72. The principal exports are wool, timber, lead, copper, whale-oil, and pearls. Total value of exports, about \$3,300,000; imports, \$3,800,000.

73. Perth, the capital, is situated on Swan River.

TASMANIA OR VAN DIEMEN'S LAND.

74. Tasmania was discovered in 1642 by Tasman, a Dutch navigator. The next visitor was Captain Cook, in 1769. The first British colony was a convict settlement, established in 1803. No convicts have been sent to the island since 1853.

75. Tasmania is a heart-shaped island, on the south-east of Australia, from which it is separated by Bass Strait, 130 miles wide. It has many good harbors.

76. The area is 26,215 square miles, or about the same as that of New Brunswick. The surface is much diversified with mountain-peaks, table-lands, plains, and valleys. Mount Humboldt, in the south-west (5500 feet), is the highest point.

77. The climate is mild and healthful. Frost and snow are unusual, except on the mountains.

78. The minerals are gold, tin, coal, and iron.

79. The vegetation is like that of Australia, but more luxuriant. The forests yield excellent timber and beautiful cabinet wood. The soil and climate are specially suited to the growth of wheat, apples, pears, plums, and other fruit.

80. The native animals are like those of Australia.

81. The population is about 150,000. The native inhabitants have become quite extinct.

82. Hobart (28,000), the capital, has a fine harbor on the estuary of the Derwent.

83. The rearing of sheep, agriculture, and whaling are the chief pursuits. Value of exports, \$6,800,000; imports, \$7,800,000.

Tasmania is a British colony, with a government similar to those of the Australian colonies.

NEW ZEALAND.

84. New Zealand was discovered in 1642 by the Dutch navigator Tasman. Captain Cook sailed around it in 1769, and formally proclaimed it as British territory. It was erected into a British colony in 1840.

85. New Zealand comprises the three islands—*North Island* or *New Ulster*, *South Island* or *New Munster*, and *Stewart Island* or *New Leinster*, besides several small islands. North and South Islands are separated by Cook's Strait, 25 miles in breadth at the narrowest part.

86. The group is situated about 900 miles east of Tasmania, and is nearly midway between the Cape of Good Hope and Cape Horn. S. lat. 34° 25'—47° 17'; E. long. 16° 25'—178° 35'.

87. The entire area is about 105,500 square miles, of which North and South Islands comprise 100,000 square miles.

Surface.—88. A high mountain-range extends through North and South Islands. There are several lofty volcanic peaks. The islands are subject to earthquakes.

Mount Cook (13,200 feet), in South Island, is the highest peak. **Mount Ruapehu**, in North Island, is 9000 feet high. **Tongariro**, in North Island, is an active volcano.

89. The climate is humid, free from extremes of heat and cold, and is very salubrious. Snow is rare, except in the south.

Vegetation.—90. The climate and soil are admirably adapted to agriculture and grazing. All kinds of grain, vegetables, and fruit grown in the Dominion of Canada are successfully cultivated, and most of the fruits of Southern Europe ripen in the open air.

The *Kauri pine* of New Zealand is, on account of its lightness and elasticity, highly prized for shipbuilding. It also yields a valuable gum. *New Zealand flax* is one of the most valuable native



NEW ZEALAND FLAX.

plants. It has a large fibrous leaf, much used for the manufacture of ropes. There are large forests of tree-ferns.

91. The minerals are varied and valuable, comprising coal, plumbago, iron, gold, and copper. Fossil kauri-gum is abundant.

Animals.—92. The native animals of New Zealand are very small, and few in number. There are no snakes or noxious insects. Many animals introduced from Europe, as swine and deer, now run wild.

Inhabitants.—93. The population in 1888 was 649,000.

The natives, called Maoris, are estimated at 42,000, chiefly on North Island. They are of a copper complexion, well proportioned, have black curling hair, and are much superior to the Australians. They have often engaged in sanguinary wars against the colonists. These people, who are now decreasing in number, were formerly fierce cannibals, drinking the blood and feasting on the bodies of their captive enemies. Many of them have become Christians, and occupy high positions in the country.

94. **Wellington** (33,000), the capital, has a beautiful situation,

and a superior harbor on the south of North Island. **Auckland** (53,000), the former capital, on North Island, has a large trade. **Dunedin** (23,000), on South Island, is in the neighborhood of gold-mines. It exports large quantities of wool.

95. The exports are gold, wool, grain, flax, kauri-gum, mutton, and timber. The imports consist of manufactured goods, tea, coffee, and tropical products. Value of exports and imports, each about \$40,000,000.

96. The government is similar to that of other British colonies,—with a House of Representatives, a Legislative Council, and a responsible Executive.

97. **Chatham, Antipodes, Auckland, Campbell, and Macquarie** islands, on the east and south of New Zealand, are important stations for those engaged in the whale-fisheries of the Southern Seas.

Antipodes is so called from its being nearly opposite London. It is in S. lat. 49° 40', and W. long. 177° 20'.

98. **Norfolk Island**, to the north of New Zealand, having an area of 13 square miles, and noted for its gigantic pines, was formerly used by the British Government as the place of exile for criminals of the worst class.

PAPUA OR NEW GUINEA.

99. Papua is said to signify *crisp-haired*, a characteristic of the natives. The island is wholly in the Torrid Zone, and is separated from Australia by Torres Strait. It is very irregular in form, and is, next to Australia, the largest island on the globe. Dangerous coral reefs lie along the south-eastern coast.

100. The interior of Papua is almost wholly unexplored. The lofty mountains near the coast rise to the height of 17,000 feet.

101. The climate is hot and humid, but not unhealthy, except in swampy districts.

102. The vegetation is very luxuriant, resembling that of the Indian Archipelago. Among the products are coconuts, betel, sago, bread-fruit, bananas, nutmegs, oranges, and spices. The forests yield ebony, iron-wood, and other valuable timber-wood.

103. Papua is noted for its varied species of birds. It is the native country of the bird of paradise. Quadrupeds are few in number, and resemble those of Australia.

104. The inhabitants belong to different races, the dark-colored, frizzled-haired Papuans prevailing in the west, and the light-complexioned Polynesians in the east.

The population, including that of the adjacent islands, is estimated at 800,000.

105. Holland claims the western half of the island, Germany the northern portion of the eastern half, and Great Britain the southern portion.

SMALLER ISLANDS.

106. The following small islands are included in Australasia:—

Bismarck Archipelago, Solomon Islands, Louisiade Archipelago, New Hebrides, and New Caledonia.

107. These islands generally have a delightful climate, the tropical heat being tempered by sea breezes. Their products include cocoa-nuts, bread-fruit, bananas, yams, cotton, sugar-cane, ebony, and sandal-wood.

108. The *Bismarck Archipelago*, including the *Admiralty Isles, New Pomerania* (New Britain), *New Mecklenburg* (New Ireland), belong to Germany.

109. The *New Hebrides* comprise a long chain of volcanic islands. The following are the principal islands:—

Espiritu Santo, Mallicollo, Ambrim, Annatom, Erromango, Tanna, and Efate. The total area of the *New Hebrides* is about 3000 square miles, and the population is about 200,000. *Tanna* has an active volcano. *Aurora*, one of the most fertile of the group, wholly disappeared in 1871.

110. The *New Hebrides* are noted as the scene of missionary labors. John Williams and the Gordons were barbarously murdered on *Erromango*. The *New Hebrides* are under the joint protection of Great Britain and France.

111. *New Caledonia*, a volcanic island, about 250 miles in length, belongs to France, and is used as a penal settlement. Its valleys are very fertile, and it has valuable nickel mines. Area, 6000 square miles; population, 62,750.

POLYNESIA.

112. Polynesia, signifying *many islands*, is the general name given to the numerous groups of islands in the Pacific Ocean, east of Malaysia and Australasia.

113. Many of the islands are very beautiful. Some are low, and of coralline formation; others are mountainous, and of volcanic origin. The latter are in many cases surrounded by coral reefs, which are dangerous to navigation. Some of the coral islands are in the form of a ring, having a lagoon or lake in the middle: these islands are called *atolls*.

114. Most of the islands are very fertile. They have a moist, tropical, and healthy climate. The heat is greatly modified by sea breezes.

The *vegetation* is luxuriant, without great diversity. The bread-fruit tree, the cocoa-nut palm, and the plantain, are valuable food plants. The other products include yams, sugar-cane, arrowroot, bananas, and sweet potatoes.

The cocoa-nut palm supplies nearly all the wants of the native. He lies beneath its shade, or builds his house of its timber; he makes clothing of its leaves, finds food and drink in its fruit, and ready made goblets in its shells.

There are no large native quadrupeds. The sea yields abundance of fish, and sea-birds are numerous.

115. The *inhabitants* are generally Malays, of a dark-brown color. They are fond of the sea, and are skillful in managing a boat. Their number is estimated to be 500,000.

When first visited by Europeans, all were heathens, worshipping idols, and believing in many superstitions. The priests had great power, and could take any man's property by pronouncing the word *taboo* over it. The property was then considered sacred, and the original owner durst not keep it. Great efforts have been made to convert these people to Christianity, and in most instances with marked success. Many of them have, however, been greatly debased by unscrupulous white traders.

GROUPS.

116. Polynesia is sometimes divided into *Micronesia* (*Small Islands*), embracing the islands on the north of the Equator; and *Polynesia Proper*, including those south of the Equator.

The principal groups on the north of the Equator are the *Bonin, Ladrone* or *Mariana, Pelew, Caroline, Marshall, and Sandwich Islands*.

Those on the south of the Equator are *Fiji, Navigator* or *Friendly, Samoa, Cook's, Austral, Society, Low Archipelago, and Marquesas*.

117. Some of the groups are claimed by European powers, others have native governments.

118. The *Ladrone* (*Thieves*) were so called by Magellan on account of the pilfering habits of the natives. They belong to Spain. Population, 10,000.

119. The *Caroline Islands* are also claimed by Spain. They embrace many widely-scattered coralline groups. The inhabitants subsist largely on fish. The *Pelew* group belongs to Spain. The *Marshall Isles* belong to Germany.

120. The *Sandwich Islands*, the most important group in Polynesia, occupy a remote position, midway between America and Asia. The islands are mountainous and volcanic. The area is 7000 square miles.

121. There are *eight principal islands*. *Hawaii*, memorable as the place where Captain Cook was killed by savages in 1779, contains over half the whole area. This island has mountain-peaks nearly 14,000 feet high, and *Mount Kilauca* is the largest active volcano in the world, having a crater nine miles in circumference. On another island is an extinct volcano, having a crater twenty-five miles in circumference.

122. The *climate* of the *Sandwich Islands* is temperate and healthful. Sugar-cane, coffee, and rice are cultivated. Taro, a succulent root, is much used as food. Cattle, sheep, mules, and horses are numerous.

123. The *population* is about 81,000. In 1820 the natives destroyed their idols, and shortly after, through the influence of American missionaries, they embraced Christianity. They are now far advanced in civilization, and have many schools and churches. The native population is decreasing.

124. **Honolulu** (20,000), on Oahu, is the capital, and the most important commercial town in Polynesia. It is much visited by traders between America and Asia, and also by whalers in the North Pacific.

125. The government of the Sandwich Islands is a limited monarchy.

126. The **Fiji** (*Feejee*) Islands were, at the request of the inhabitants, ceded to Great Britain in 1874. They comprise about sixty inhabited islands, only two of which are of considerable size. The total area is about 8000 square miles. *Viti Levu*, the largest of the group, comprises over half the whole area. *Suva*, on this island, is the capital.

The islands are volcanic, and have numerous hot springs, but no active volcanoes. Violent hurricanes sometimes occur. The climate is very agreeable and salubrious.

The products comprise coffee, sugar-cane, cotton, yams, and cocoa-nuts.

127. The inhabitants are dark, and have long woolly hair. They were formerly noted cannibals. Through the teaching of Methodist and Roman Catholic missionaries, many of them have embraced Christianity. It is estimated that nearly one-third of the inhabitants were carried off by measles in 1875. Population, 127,400.

128. **Navigators' Islands** received their name from the skill of the natives in making and navigating canoes. They have a total area of about 3000 square miles. The inhabitants number about 56,000, many of whom have professed Christianity.

129. The **Friendly Islands** were named by Captain Cook, who was well received by the natives. They are sometimes called the Tonga Isles, from *Tongataboo*, the chief island. The population is about 25,000. Nearly all the inhabitants have embraced Christianity, and many speak the English language.

130. **Cook's Islands** are small and scattered. They are generally

volcanic and elevated. *Raratonga*, one of the group, was for many years the field of the missionary Williams.

131. The **Society Islands** are also high and volcanic. They belong to France. They have a most agreeable climate, and yield nearly all the fruits and vegetables of the Torrid Zone. *Tahiti*, or *Otaheite*, the largest island, having an area of about 412 square miles, is very beautiful. It contains mountains 10,000 feet high. Total population, 11,200. *Papeete* is the chief port and capital.

The **Marquesses**, a volcanic group, are also claimed by the French. Population, 14,200.

Low Archipelago consists of an immense number of low islands and coral reefs. The group belongs to France.

132. **Pitcairn Island** is a small, elevated, and solitary island in the south-east of Polynesia. It is noted for its occupation by the mutineers of the ship *Bounty*, who settled here in 1790. Having placed their captain in an open boat in the midst of the ocean, the crew sought a refuge from justice. Nine of them, accompanied by six Tahitian men and twelve women, landed on Pitcairn Island, where they remained unknown for many years. When visited in 1825, the colony consisted of sixty-six persons, who were highly moral and industrious. The only survivor of the mutineers was John Adams, who had become the religious teacher of the community. Becoming too numerous for their small island-home, which comprised an area of less than two square miles, they removed to Norfolk Island in 1856, but many of them afterwards returned to Pitcairn.

EXERCISE—Find the distance from London to Canton by each of the following routes:—

(1.) Westerly, across the Atlantic to Halifax, through British America to Vancouver, and across the Pacific.

(2.) Easterly, through France, across the Mediterranean, Suez Canal, the Red Sea, and the Indian Ocs.

GLOSSARY OF GEOGRAPHICAL TERMS.

- Affluent**.—A river that flows into another river; a tributary.
- Antarctic**.—Opposite to arctic; southern. The Antarctic Circle is 23° 28' distant from the south pole.
- Antipodes**.—People who live on opposite sides of the Earth, having the feet directly opposite.
- Archipelago**.—A group of islands; a sea containing many islands. The sea on the east of Greece is called *The Archipelago*.
- Arctic**.—Northern. The Arctic Circle is 23° 28' distant from the north pole.
- Atoll**.—A circular coral island with a lagoon or lake in the centre, giving it the form of a ring.
- Aurora Borealis**.—A streaming light originating in the arctic heavens; Northern Lights.
- Axis**.—An imaginary straight line passing through the centre of the Earth, around which the Earth turns once in 24 hours.
- Barrier Reef**.—A reef or rocky wall in the sea, separated from the shore by a channel or lagoon, as on the east coast of Australia.
- Basin**.—A territory drained by a river and its tributaries; so called from its hollowed surface; a small arm of the sea.
- Bay**.—An inlet of the sea. The terms bay and gulf are applied to similar bodies of water.
- Beach**.—The land adjoining a sea or lake; usually applied to that portion of the land which is washed by the tides and waves.
- Bluff**.—A high, steep bank overlooking a sea, lake, or river.
- Bog**.—Wet, spongy ground, containing large quantities of vegetable matter.
- Bore**.—The tidal wave ascending a river. The bore in some rivers, as the Hoogly, is a wall of water several feet in height, and rushes up with great rapidity.
- Cape**.—A point of land running out into the sea; a headland.
- Capital**.—The seat of government.
- Cascade**.—A small waterfall.
- Cataract**.—A great waterfall, as Niagara Falls.
- Cereal**.—Grain, as wheat, rye, barley, and rice.
- Channel**.—The bed of a river; a passage of water connecting two seas, generally broader than a strait.
- Climate**.—The general condition of the weather, especially in respect to heat, moisture, and salubrity.
- Coast**.—The part of a country which lies near the sea. The *coast-line* is the irregular line where sea and land meet. *Coast-waters* are the portions of the sea which lie near the land.
- Continent**.—A large portion of land; as the *Western Continent*, which consists of *North and South America*; and the *Eastern Continent*, which consists of *Europe, Asia, and Africa*. These smaller divisions, as well as *Australia*, are sometimes called continents.
- Crater**.—The mouth of a volcano. The largest crater in the world is on one of the Sandwich Islands.
- Creek**.—A brook; a small bay.
- Cyclone**.—A hurricane or violent wind, moving in a great circle. Cyclones often occur in the Indian Ocean.
- Delta** (*The name of a letter of the Greek alphabet having a triangular form*).—An alluvial tract of land enclosed between the different channels at the mouths of certain rivers, as the Delta of the Nile.
- Desert**.—A barren region. Deserts are usually caused by scarcity of rain, or by the presence of a large quantity of salt in the soil.
- Doab**.—A name given to a tongue of land at the confluence of rivers in India.
- Doldrums**.—A sea term for the region of calms in tropical seas. They are much dreaded by mariners.
- Downs**.—The name given to the rounded hills in the south of England.
- Dune**.—A sand hill formed by the wind.
- Earthquake**.—A shaking of the Earth's surface, varying in degree from a slight tremor to the most violent agitation. Violent earthquakes are attended by upheavals, depressions, and rents in the ground. They are most common in tropical countries.
- Embouchure**.—The mouth of a river.
- Empire**.—A country ruled by an emperor; a number of countries united under one sovereign, as the British Empire.
- Equator**.—A great circle passing around the Earth east and west, equidistant from the poles, and dividing the Earth's surface into northern and southern hemispheres.
- Estuary**.—The mouth of a river, or the part affected by the tide.
- Etesian**.—A term applied to winds which blow at stated times of year, as the monsoons.
- Exports**.—Goods sent out of a country.
- Fata Morgana**.—A mirage observed at sea, presenting inverted and distorted images of objects in the air. It is supposed to be caused by the contact of currents of air of unequal density, by which the light is refracted. (*See Mirage*.)
- Fjord**.—An arm of the sea.
- Firth**.—An arm of the sea, as the Firth of Forth.
- Frigid**.—Cold. (*See Zone*.)
- Geyser**.—An Icelandic word applied to the boiling, spouting springs of Iceland.
- Glacier**.—A large mass of ice and snow which moves slowly and imperceptibly down the elevated valleys along the slopes of snow-covered mountains. The Alps are noted for glaciers.
- Government**.—The power which rules a country; the laws of a country; the body of men who hold the executive power.
- Gulf**.—A portion of water extending in from the ocean and nearly surrounded by land; a bay.
- Harbor**.—A small inlet of the sea, affording shelter to vessels.
- Hemisphere**.—Half a sphere or ball. The Earth is divided by the equator into the northern and southern hemispheres.

- Horizon**.—The circle which bounds the view, where the earth and sky seem to meet, is called the *sensible horizon*. A great circle parallel with the sensible horizon, dividing the Earth into the upper and lower hemispheres, is called the *rational horizon*.
- Iceberg**.—A large mass of ice floating in polar seas, and often brought by ocean currents to warmer latitudes. Icebergs rise from 50 to 200 feet above the water, and about seven-eighths of their bulk are submerged.
- Imports**.—Goods brought into a country from abroad.
- Island**.—A portion of land surrounded by water, as Cape Breton. Islands are said to be *continental* when they are near a continent, and *pelagic* when in mid ocean.
- Isthmus**.—A narrow neck of land connecting countries almost separated by water, as the Isthmus of Panama, which joins North and South America.
- Karoo**.—A term applied to the terrace-like plains in South Africa, which are alternately barren wastes and clothed with luxuriant vegetation, according to the season.
- Lagoon**.—A shallow portion of salt water separated from the sea by a beach or reef. Lagoons within coral reefs are common among the islands of the Pacific.
- Latitude**.—Distance from the equator, measured in degrees on a meridian. It is either north or south, and cannot exceed 90°. The length of a degree of latitude is about 69½ degrees. The ancients supposed the Earth's measurement was much greater from east to west than from north to south.
- Llanos**.—A term applied to the level treeless plains in the basin of the Orinoco in South America.
- Longitude**.—Distance east or west from the first meridian. The highest longitude is 180°. The length of a degree of longitude at the equator is nearly the same as a degree of latitude; but it becomes constantly less as we approach the poles.
- Meridian**.—A noon line. Meridians are imaginary lines passing from pole to pole, and cutting the equator at right angles. Two opposite meridians form a meridian circle.
- Mirage**.—An illusive appearance, resembling water, trees, and other objects, seen in deserts and level tracts of country, and supposed to be caused by the unequal densities of different strata of air.
- Monarchy**.—A government in which the supreme power is lodged in one person.
- Monsoon**.—A periodical wind of India, blowing half the year from the north-east and the other half from the south-west.
- Mountain**.—A high and abrupt elevation of the Earth's surface above the surrounding country. A **mountain system** consists of several mountain ranges extending in the same general direction. A **mountain pass** is a break or gap in a mountain range forming a passage way from one side to the other.
- Oasis**.—A fertile spot in the midst of a desert.
- Ocean**.—The vast body of salt water which surrounds the Earth. The term is also used in a more limited sense, as the Atlantic Ocean.
- Oceania, or Oceanica**.—A term applied to the islands of the Pacific Ocean, taken collectively.
- Pampas**.—The treeless plains between the Rio de la Plata and the Andes, in South America. They are covered with tall grass and gigantic thistles. Vast herds of wild cattle and horses roam over the pampas.
- Peninsula**.—A portion of land nearly surrounded by water, as Nova Scotia.
- Plain**.—A level open country. Plains include prairies, llanos, selvas, pampas, steppes, and deserts.
- Plateau**.—An elevated plain; a table-land.
- Pole**.—The extremities of the Earth's axis are called the poles—the *north pole* and the *south pole*.
- Prairie**.—A term applied to the grass-covered plains in the basin of the Mississippi.
- Promontory**.—A high cape; a headland.
- Province**.—A colony; a dependency; originally a country obtained by conquest.
- Reef**.—A rocky ridge near the surface of the water.
- Republic**.—A state or country in which the highest officer of the government is elected for a limited term by the people.
- River**.—A large stream of water flowing over the land.
- Savanna**.—A vast plain, destitute of trees, and covered with grass.
- Sea**.—A large body of salt water.
- Selvas**.—The name given to the forest plains in the basin of the Amazon.
- Shore**.—The land bordering on the sea.
- Simoom**.—A hot, suffocating wind, which blows over the deserts of Arabia.
- Sirocco**.—A hot wind blowing from Africa to the southern shores of Europe.
- Sound**.—A narrow and shallow passage of water.
- Steppes**.—A name given to the plains of Northern Asia and South-eastern Europe.
- Strait**.—A narrow passage of water.
- Tornado**.—A violent wind, usually of short duration, and confined to narrow limits.
- Torrid**.—Very hot. (*See Zone.*)
- Tropic**.—A term applied to two circles, one 23° 28' north of the equator, called the Tropic of Cancer; and the other 23° 28' south, called the Tropic of Capricorn. They mark the limits of the sun's declination north and south. The sun is never vertical beyond the tropics.
- Typhoon**.—A term applied to the hurricanes occurring in the south-east of Asia and the adjacent islands.
- Valley**.—A hollow between hills or mountains.
- Volcano**.—A mountain from which molten rock or lava, ashes, and smoke are thrown upward.
- Water-shed**.—A ridge or height of land from which streams flow in opposite directions.
- Whirlpool**.—A circular motion of water caused by the meeting of opposite currents. The Maelström is a celebrated whirlpool on the coast of Norway.
- Whirlwind**.—A rotatory wind. Whirlwinds at sea produce *water-spouts*; when they blow over sandy deserts they raise vast bodies of sand called *sand-pillars*.
- Zone**.—A belt extending around the Earth. The tropics and the polar circles divide the Earth's surface into five zones—the *torrid*, *north temperate*, *south temperate*, *north frigid*, *south frigid*.

PRONOUNCING VOCABULARY OF GEOGRAPHICAL NAMES.

KEY TO THE REPRESENTATION OF SOUNDS.

ē, as in <i>pate</i> . ā, as in <i>pat</i> . ah, as a in <i>bar</i> . aw, as a in <i>ball</i> .	ē, or ee, as in <i>meet</i> . ē, as in <i>met</i> . ō, as in <i>done</i> . ō, as in <i>pot</i> .	i, as in <i>pine</i> . i, as in <i>pin</i> . ū, as in <i>mute</i> . ū, as in <i>nuf</i> .	oo, as in <i>moon</i> . ow and ou, as ow in <i>cow</i> . ai, as in <i>air</i> . g, as in <i>go</i> ; j as j in <i>gin</i> .
--	---	--	--

Aachen, Ah'-ken.	Alessandria, ... A-les-nah'n'-drō-a.	Anticosti, An-te-kōs'-te.
Aalborg, All'-borg.	Aleutian (Is.), ... A-lē'-she-an.	Antigua, An-tē'-gah.
Aarhuus, A-wr'-hoos.	Alexandria, ... Al-ex-an'-drō-a.	Antilles, An-tēēl'.
Abaco, Āb'-a-kō.	Algeria, Al-jēr'-re-a.	Antiparos, ... An-tip'-a-rōs.
Abbeokuta, ... Āb-be-o-koo'-tah.	Algiers, Al-jēr'.	Antisaua, An-tē-sah'-mah.
Aberdeen, Āb-er-deen'.	Algoa, Al-gō'-a.	Antrim, An'-trim.
Abomey, Āb-o-mē'.	Al-jezirah, ... Al-je-see'-rah.	Antwerp, Ant'-wurrp.
Aboukir, Āb-oo-keer'.	Allahabad, ... Ah-lah-hah-bahd'.	Apalachee, ... Ap-a-lah'-che.
Abysinia, Āb-ia-sin'-e-a.	Alleghany, Al'-le-ghā-ne.	Apennines, ... Ap'-pen-nines.
Acadie, Ak'-a-de.	Allos, Al'-lo-a.	Appalachian, ... Ap-pa-lā'-che-an.
Acapulco, Ak-a-pool'-ko.	Alps, Ālps.	Apure, A-poor'-ā.
Acari, Ah-kah-rah'-e.	Altai, Al-tā'.	Arabia, Ar-ē'-be-a.
Achil, Ak'-il.	Altamaha, ... Al-ta-mah-haw'.	Aracan, Ar-a-kan'.
Aconagua, Ak-on-kah'-gwah.	Altorf, Al'-torf.	Aracura, Ar-a-foo'-ra.
Adamaawa, ... Ad-a-mah'-wa.	Amager, Ah'-mah-ger.	Aragón, Ar'-a-gon.
Adelaide, Ad'-e-lāde.	Amazon, Am'-a-zōn.	Aral, Ar'-al.
Aden, Ah'-den (Ā'-den).	Ambrim, Am-breem'.	Ararat, Ar'-a-rat.
Adige, Ad'-e-je.	America, A-mer'-e-ka.	Aranea, Ah-rav'-kah.
Adirondack, ... Ad-i-ron'-dak.	Amhara, Am-hah'-rah.	Araxes, Ar-ax'-es.
Adour, Ah'-door'.	Amiens, Ām'-e-ēnz (Ah-me-ang').	Arbela, Ahr-bē'-lah.
Adowa, Ah'-do-wah.	Amirante, A-me-rant'.	Arbroath, Ar-brōth' (Ar'-).
Adrianople, ... Ā-dre-an-ō'-pl.	Amoo, Ah-moo'.	Archangel, Ark-ān'-jel.
Adriatic, Ā-dre-at'-ik.	Amoor, Ah-moor'.	Archipelago, ... Ar-ke-pel'-a-go.
Ægean, E-je'-an.	Amoy, A-moi'.	Arcot, Ar-kot' (Ar'-kot).
Ætna, E'-nah.	Amritair, ... Am-rit'-sir.	Arctic, Ark'-tik.
Afghanistan, ... Af-gan-is-tan'.	Amsterdam, ... Am'-ster-dam.	Ardnamurchau, Ard-na-mūr'-kan.
Africa, Af'-re-ka.	Anadir, An-a-dēr'.	Arequipa, Ar-e-kēr'-pah.
Agra, Ah'-grah (Ā'-gra).	Anam, Ā-nam' (Ā'-nam).	Argenteuil, Ar-shan-tool'.
Agua, Ah'-gwah.	Anatolia, An-a-tō'-le-a.	Argos, Ahr'-gos.
Agulhas, Ah-gool'-yas.	Ancona, An-kō'-nah.	Argyle, Ar-gyle'.
Ahmedabad, ... Ah-med-ah-bahd'.	Andaman, An-da-man'.	Arica, Ar-ērēk'-ah.
Aidin, Ī-deen'.	Andes, An'-dēs.	Arichat, Ar'-e-shat.
Ainalie, Ān'-le.	Anegada, A-ne-gah'-dah.	Arizona, Ar-e-zō'-nah.
Airdrie, Air'-dree.	Angara, An-gah-rah'.	Arkansas, Ar-kan'-sas.
Aix-la-Chapelle, Āks-lah-sha-pel'.	Anglesey, Ang-gl-se.	Arklow, Ark'-lō.
Ajaccio, A-ya'-chō.	Angola, An-gō'-lah.	Armagh, Ahr-mah'.
Ajan, A-jan'.	Angora, An-gō'-rah.	Armenia, Ar-mēr'-ne-a.
Akabah, Ak'-a-bah.	Angra, An'-grah.	Arran, Ar'-ran.
Akyab, Ak-yahb'.	Anguilla, An-gwil'-lah.	Arru, Ar-roo'.
Alabama, Al-ah-bah'-ma.	Anhalt, Ahn'-halt.	Ascension, As-sen'-shun.
Aland, Ah'-land.	Ankobar, An-kō'-bar.	Ashantee, Ash-an-tēr'.
Alaska, A-las'-kah.	Annabona, An-na-bō'-na.	Asis, Ā'-she-a.
Albany, All'-ba-ne.	Annam, An'-nan.	Assam, As-sām'.
Albemarle, Al-be-marl'.	Annapolis, ... An-nap'-o-lis.	Assiniboine, ... As-sin'-e-boin.
Albyn, Āl'-bln.	Annatom, An-na-tōm'.	Assyria, As-sir'-e-a.
Albion, All'-der-ny.	Annobon, An-no-bōn'.	Astrakhan, As-tra-kan'.

Asturias,	As-too' re-na.	Baton-Rouge,	Dah-ta-roosh'.	Bologna,	Bo-lōnē-yah.
Atbara,	Āt-bah' rah.	Bavaria,	Ba-vā' re-a.	Bolor Tagh,	Bo-lōr' tagh'.
Athabasca,	Āth-a-bas' ka.	Bayonne,	Bah-yon'.	Bombay,	Bōm-bā'.
Athens,	Āth' e-as.	Beauce,	Bōce.	Bona,	Bō' nah.
Athlone,	Āth-līnē'.	Beaufort,	Bū' fort.	Bonaventure,	Bōn-ah-vang-too'.
Athy,	Ā-thī' (Āth'e).	Beauharnois,	Bō-har-nwā'.	Bonin,	Bo-neū'.
Atlantic,	Āt-lan' tik.	Beaumaris,	Bō-mā' ris.	Bonnechere,	Bōn-shair'.
Auckland,	Awk' land.	Becancour,	Bā-kōng-koor'.	Boothia,	Boo' the-a.
Augsburg,	Awgs' boorg (Owgs').	Bechuana,	Bēt-choo-ah' naz.	Bordeaux,	Bōr-dō'.
Aurangabad,	Aw-rung-a-bad'.	Begharmī,	Be-gar' mē.	Borneo,	Bōr' ne-ō.
Austerlitz,	Aws' ter-litz (Ows').	Behring,	Beer' ing.	Bornholm,	Bōrn' holm.
Australasia,	Aws' tral' ā-she-a.	Bel-ed-el-Jerid,	Bēl' ed-el-je-rēd'.	Bornou,	Bōr' noo'.
Australia,	Aws' trā' lā-she-a.	Belfast,	Bēl' fast' (Bel').	Bosna-serial,	Bōs' nah-ser' f.
Austria,	Aws' tre-a.	Belgium,	Bēl' jē-um.	Bosphorus,	Bōs' fō-rus.
Auvergne,	Ō-vain'.	Belgrade,	Bēl' grādē'.	Bothnia,	Bōth' ne-a.
Ava,	Ā' va (Āh' vah).	Bellechasse,	Bēl' shahs'.	Boulardarie,	Bōo' lar-dre.
Avalon,	Āv' a-lōn.	Belle Isle,	Bēl' lē'.	Boulogne,	Boo-lōnē'.
Avignon,	Āh-vēn-yong'.	Belleville,	Bēl' vil' (-vēs'f).	Bourbon,	Bōor' bon' (-bōng').
Avon,	Ā' von.	Beloochistan,	Bēl-oo-chis-tan'.	Bouro,	Bōo' ro.
Awe,	Aw.	Belper,	Bēl' per.	Brabant,	Brah-bant'.
Axum,	Ahk' soom'.	Benares,	Bēn-ah' rēz.	Braga,	Brah' gah.
Aylesbury,	Āles' ber-e.	Ben Attow,	Bēn-Āt' tow.	Brahmapootra,	Brah-ma-poo' tra.
Aylmer,	Āle' mur.	Benbecula,	Bēn-bā-koo' lah.	Bras d'Ōr,	Brah-dōrē'.
Ayr,	Āir.	Ben-coolen,	Bēn-koo' lēn.	Brazil,	Bra-sēl' (-zil').
Azof,	Āz' of.	Bengal,	Bēn-gaw' lēn.	Brazos,	Brah' sos.
Azores,	Ā-zōres'.	Benguela,	Bēn-gā' lah.	Brechin,	Brēk' in.
		Benicia,	Be-nish' e-a.	Bremen,	Brēm' en.
Baalbec,	Bahl' bek' (-bek').	Benin,	Be-nēn'.	Brescia,	Bresh' le-ah.
Baba,	Bah' bah' (-bah').	Ben Lomond,	Bēn-lō-mōnd.	Breslau,	Bres' law.
Bab-el-Mandeb,	Bah-bel-mahn' deb.	Ben Macdhui,	Bēn-māk-doo' e.	Bretagne,	Bre-tahn'.
Baden,	Bah' den (Bā-).	Ben Nevis,	Bēn-nē' via.	Brighton,	Bri' ton.
Bagdad,	Bag' dad' (-dad').	Ben Wyvis,	Bēn-wī' via.	Brisbane,	Bris' bane.
Bahamas,	Ba-hā' mas.	Berbice,	Ber-bēcē'.	Britain,	Brit' tā-ne.
Bahia,	Bah' ā-ah.	Bergamo,	Bur' ga-mō.	Brittany,	Brit' tā-ne.
Bahr el Azrek,	Bahr-el-āz' rēk.	Bergen,	Burg' en.	Brocken,	Brōk' en.
Balkal,	Bī' kāl.	Berkshire,	Burk' shēr.	Bruges,	Broo' jes.
Baku,	Bah' koo'.	Berlin,	Ber-līn' (Ber').	Brunn,	Broon.
Baleares,	Bāl-e-ar' ik.	Bermudas,	Ber-mōō' dāz.	Bussa,	Broo' nah.
Balise,	Bā-lēz'.	Berne,	Bērne.	Brussels,	Bru' sels.
Balkan,	Bahl' kahn'.	Berthier,	Ber-te' ā.	Buchan-Ness,	Bōk-an-nes'.
Balkash,	Bahl' kash'.	Berwick,	Ber-wick' (rik).	Bucharest,	Boo-ka-rest'.
Ballina,	Bāl-lo-nah'.	Besançon,	Bā-zang-song'.	Bucharia,	Boo-kā' re-a.
Ballinasloe,	Bāl-līn-a-slō'.	Bethany,	Beth' ā-ne.	Buctouche,	Buk-toosh'.
Ballymena,	Bāl-le-mē' na.	Bethlehem,	Beth' le-hem.	Buda,	Boo' dah (Bū').
Ballyshannon,	Bāl-le-shan' non.	Beyrout,	Bā' root (Bī').	Buen Ayre,	Bwen' rā.
Balmoral,	Bāl-mō' ral.	Bhotan,	Boo-tahn'.	Buenos Ayres,	Bwā' nos' rē-sa.
Bamburg,	Bām' burg.	Biafra,	Be-af' ra.	Bug,	Boog.
Bamian,	Bah-me-ahr'.	Bleque,	Bē-ā' kā.	Bushire,	Boo-sheer'.
Banda Oriental,	Bahn' dah' ō-re-ēn-tā'.	Bilbao,	Bē-bā' ō.		
Bamff,	Bamff.	Bilaton,	Bil' ton.	Cabes,	Kahb' ēs.
Bankok,	Bān-kōk'.	Birmingham,	Bur' ming-ham.	Cabul,	Kah' boof.
Bannockburn,	Bān-nōk-burn.	Biscay,	Bis' kā.	Cabrera,	Kah-brā' rah.
Barbados,	Bar-bā' dōs.	Blairgowrie,	Blair-gow' re.	Cadis,	Kā' dis.
Barbuda,	Bar-boō' dah.	Blanc (Mont),	Mōng-blōng'.	Caermarthen,	Ker-mar' then.
Barca,	Bar' kah.	Blanco,	Blan' kō.	Caernarvon,	Ker-mar' von.
Barcelona,	Bar-sā-lō' nah.	Blasquet,	Blas' ket.	Cagliari,	Kah' yah-re.
Barmen,	Bar' men.	Bodrun,	Bo-droon'.	Calcutta,	K'f' kos.
Baroda,	Bar' ō' da.	Bogota,	Bō-go-tah' (gō').	Cairn Gorm,	Karn-gorm'.
Barra,	Bar' rah.	Bohmerwald,	Bō-mer-waw' id.	Cairo,	Kī' rō.
Basel,	Bah' zī.	Boise,	Bwah' zā'.	Caithness,	Kāth' nēs.
Basle,	Bahl.	Bois le Duc,	Bwah-le-d.	Calabar,	Kal-a-bar'.
Basorah,	Bahs' so-rah.	Bokhara,	Bo-kah' rah.	Calais,	Kal' is.
Bastia,	Bas-tā' ah.	Bolan,	Bo-lahn'.	Calcutta,	Kal-kut' ta.
Batavia,	Ba-tā' ve-a.	Boll,	Bō' lee.	Callout,	Kā' i-kut'.
Batiscan,	Bah't-la-kahr'.	Bolivia,	Bo-liv' e-a.		

California,	Kal-e-for'-ne-a.	Chapelain,	Shām-plānē'.	Corisca,	Kōr'-se-kah.
Callao,	Kāl-yah'-o.	Chandernagore,	Shān-der-na-gōrē'.	Corunna,	Ko-rūn'-nah.
Cambay,	Kām-bā'.	Chapala,	Shah-pah'-lah.	Costa Rica,	Kōr'-ah Rōō'-kah.
Cambodia,	Kām-bō'-de-a.	Charlotte,	Shar'-lēt.	Coteau,	Kō-tē.
Cambrai,	Kām-brā'.	Charybdis,	Ka-rib'-dis.	Cotopasi,	Kō-tō-pā'-e.
Cambridge,	Kāme'-bridge.	Chattahoochee,	Chāt-ta-hoo'-che.	Craoow,	Krā'-kō.
Cameroon,	Kām-er-roon'.	Chedabucto,	Shed-a-būk'-to.	Cremona,	Kre-mō'-nah.
Campagna,	Kām-pahn'-yah.	Chelmsford,	Chēm'-ford.	Crete,	Krēt.
Campeachy,	Kām-pē'-che.	Chelsea,	Chēl'-es.	Creuse,	Krooze.
Canada,	Kān'-a-dah.	Cheltenham,	Chēl'-tēn-hām.	Crieff,	Krēff.
Canaries,	Ka-nā'-rēēs.	Cherbourg,	Shēr'-burg.	Crimesa,	Krim-ē'-ah.
Canaveral,	Kān-yah'-ver-al.	Chesapeake,	Chēw'-a-pēēk.	Crosagh Patrick,	Krō'-ah Pat'-rik.
Candahar,	Kān-dah-har'.	Cheviot,	Chēv'-e-ēt.	Cromarty,	Krōm'-ar-te.
Candia,	Kān'-de-ah.	Chicago,	Shē-kaw'-gō.	Cromstadt,	Krōn'-stāt.
Canso,	Kān'-so.	Chichen,	Chē-chēn'.	Culebra,	Koo-lā'-brah.
Canterbury,	Kān'-ter-ber'-.	Chichester,	Chīch'-es-ter.	Culoden,	Kūl-ō'-dēn.
Cantire,	Kān-tīrē'.	Chigecto,	Shīg-nēk'-to.	Cupar,	Koo'-par.
Canton,	Kan-ton'.	Chile (Chili),	Chēē'-le.	Curaçoa,	Ku-ra-sō'-ah.
Cape Breton,	Kāpe-brīv'-tn.	Chiloe,	Chē-lo-ē'.	Curische Haaf,	Koo'-rieh-e-haff'.
Cape d'Or,	Kāpe-dōrē'.	Chimborazo,	Chīm-bo-rah'-so.	Cutch,	Kūch.
Capra,	Kah-prā'-rah.	Chincha,	Chīm'-chah.	Cuzco,	Kcoor'-kō.
Capua,	Kap'-u-ah.	Cholula,	Kō-loo'-lah.	Cyclades,	Sik'-lah-dēs.
Caracacas,	Ka-rak'-kas.	Christiania,	Kris-te-ah'-ne-a.	Cyprus,	Sī'-prus.
Cardiff,	Kar'-dif.	Chuguisaca,	Choo-ke-sah'-kah.		
Cardigan,	Kar'-de-gan.	Cincinnati,	Sin-sin-nah'-tē.	Dacotah,	Dah-kō'-tah.
Carlingford,	Kar'-ling-ford.	Civita Vecchia,	Chēe'-ve-tah-vēk'-ke-ah.	Dago,	Dah'-gō.
Carlisle,	Kar-līlē'.	Clackmannan,	Klāk-man'-nān.	Dahomey,	Dah-hō'-mē.
Carlsrona,	Karls-krō'-nah (-kroo'-	Clones,	Klōn.	Dalhousie,	Dāl-hoo'-ze.
Carlsruhe,	Karls-roo.	Cloamel,	Klōn-mēl'.	Dalketh,	Dāl-kēth'.
Carnore,	Karn'-sore.	Clyde,	Klīde.	Damascus,	Da-mahs'-kus.
Carpathan,	Kar-pā'-the-an.	Coana,	Kō-an'-za.	Damietta,	Dām-e-ēv'-ta.
Carpentaria,	Kar-pen-tah'-re-a.	Coblens,	Kōb'-lents.	Danish America,	Dānē'-ish A-mēr'-e-kah.
Carrickfergus,	Kar-rik-fer'-gus.	Coburg,	Kōb'-boorg.	Dantisc,	Dant'-sik.
Carron,	Kar'-ron.	Cochin,	Kō'-chin.	Danube,	Dan'-ūbe.
Cartagena,	Kar-ta-gē'-nah.	Coimbra,	Kō-im'-brah.	Dardanelles,	Dar-dā-nōil'.
Cashel,	Kāsh'-el.	Cajutepeque,	Ko-hoo-tā-pā'-kā.	Dartur,	Dar-foot.
Cashgar,	Kāsh-gar ('gar').	Colchester,	Kōlē-chēs-ter.	Darlen,	Dā'-rē-ēn.
Cashmere,	Kāsh'-mer (-mere').	Collma,	Kō-lēē'-mah.	Debrecein,	Dā-brēē'-sin.
Caspian,	Kas'-pe-an.	Colmar,	Kōl-mar'.	Deccan,	Dēk'-kān.
Cassiquiare,	Kās-se-ke-ah'-rā.	Cologne,	Ko-lōnē'.	Delagoa,	Dēl-a-gō'-a.
Castile,	Kas-tēēl'.	Colorado,	Kōl-o-rah'-do.	Delaware,	Dēl'-a-wāre.
Castlebar,	Kas-al-bar'.	Columbia,	Kō-lum'-be-a.	Delhi,	Dēl'-le.
Catania,	Ka-tah'-ne-a.	Comayaga,	Kō-mī-ah'-gwah.	Demavend,	Dēm-a-venū'.
Catoche,	Kah-to'-chā.	Comino,	Kō-mēē'-no.	Dembea,	Dēm'-be-a.
Cattogat,	Kat'-te-gat.	Como,	Kō'-nō.	Demerara,	Dēm-e-rah'-rah.
Caucasus,	Kaw'-kah-sus.	Comorin,	Kōm'-o-rin.	Denbigh,	Dēn'-be.
Caughnawaga,	Kaw-na-waw'-gah.	Comoro,	Kōm'-o-ro.	Denmark,	Dēn'-mark.
Cauvery,	Kaw'-ver-e.	Congo,	Kōng'-go.	Deptford,	Dēd'-furd.
Cavan,	Kav'-an.	Connaught,	Kon'-nawt.	Derby,	Dur'-be (Dar'-be).
Cawnpore,	Kawn-pōrē'.	Connecticut,	Kōn-nēē'-e-kūt.	Derwent,	Der'-went.
Cayenne,	Kī-ēn'.	Connemara,	Kōn-e-mar'-ah.	Desaguadero,	Dēs-a-gwah-dā'-ro.
Cayuga,	Kā-yū'-ga.	Constance,	Kōn'-stance.	Desairé,	Dē-see-rah'd'.
Celebes,	Sēl'-e-bēs.	Constantinople,	Kōn-stān-tē-nō'-pl.	De Moines,	De-moin'.
Cenia,	Sēn'-ia.	Contessa,	Kōn-tēs'-sah.	Detroit,	De-troit'.
Cenis (Mont),	Mong-ēs-nēē'.	Coomasale,	Koo-mas'-se.	Deutschland,	Doitsh'-lant.
Cephalonia,	Sēs-a-lō'-ne-a.	Copenhagen,	Kō-pēn-hā'-gēn.	Devon,	Dēv'-on.
Ceram,	Sē-rām'.	Coplapo,	Kō-pe-ah'-po (-pō).	Dieppe,	Dē-ēp'.
Cerigo,	Sēr'-e-go.	Coquet,	Kō'-ket.	Dingwall,	Ding'-wall.
Cervin,	Sur'-vin (-vang).	Cordillera-de-Coahuila,	Kōr-dīl'-le-rah-dā-Kō-ah-wēē'-lah.	Dnieper,	Nēēp'-er.
Ceuta,	Sē'-ta.	Cordova,	Kor'-do-rah.	Dniester,	Nēēs'-ter.
Cevennes,	Sā-vēn'.	Corfu,	Kor'-fū.	Dolgelly,	Dol-gel'-le (-gēth-).
Ceylon,	Sēs-lon (-lōnē').	Correntyn,	Ko-rēn-tīnē'.	Dollart,	Dol'-lart.
Chaleur,	Shah-loor'.	Corruwall,	Kor'-wall.	Dominica,	Dōm-e-nēē'-kah.
Chambly,	Shām'-blē.	Corrientes,	Kōr-re-ēn'-tes.	Doncaster,	Dōnk'-as-ter.
Chamouni,	Shah-moo-nēē'.			Donegal,	Dōn-e-gawf'.

Dongola,	Dōng-go-lah.	Enniscorthy,	Ēn-nis-kōr-the.	Galashiels,	Gal-ah-ahšēls'.
Dorchester,	Dōr'-ches-ter.	Enniskillen,	Ēn-nis-kill'-jēn.	Galena,	Gā-lē'-na.
Dornoch,	Dōr'-nōk.	Erbil,	Ēr-bēel'.	Galicja,	Gah-lēē'-ah-e-a.
Dorset,	Dōr'-set.	Ericht,	Ēr'-ikt.	Gallas,	Gāl'-las.
Douro,	Dōo'-ro.	Erie,	Ē'-rē.	Gallinas,	Gāl-lēē'-nas.
Dover,	Dō'-ver.	Erin,	Ē'-rin.	Gallipoli,	Gāl-lip'-o-le.
Dovrefeld,	Dōv-re-fe-ēld'.	Erivan,	Ēr-e-van'.	Galloway,	Gāl-lo-wā.
Drakenberg,	Drah'-ken-berg.	Erlau,	Ēr'-lou.	Galt,	Gawlt.
Drave,	Drāve (Drahv).	Erna,	Ēr-nā.	Galway,	Gawl'-wā.
Dresden,	Drēz'-dēn.	Erria,	Ēr'-riā.	Gambia,	Gām'-be-ah.
Drogheda,	Drog'-e-da (Drōh'-he-da).	Eromango,	Ēr-ro-man'-go.	Gananoque,	Gah-nah-nōkē'.
Drontheim,	Drōn'-tīme.	Erseroum,	Ū'-ze-room (Ūra-room').	Ganges,	Gān'-jēs.
Dublin,	Dub'-lin.	Erzgebirge,	Ēr-tse-gā-bēēr'-gā.	Garda,	Gār'-dah.
Dubque,	Du-bōōk'.	Ezech,	Ēz'-nēh.	Gariep,	Gah-rēēp'.
Dumbarton,	Dūm-bar'-ton.	Esex,	Ēs'-sex.	Garonne,	Gah-ron'.
Dunfries,	Dūm-frēēs'.	Esequibo,	Ēs-se-kē'-bō.	Gaspe,	Gah-pā'.
Dunbar,	Dūn-bar'.	Etna,	Ēt'-nah.	Gata,	Gah'-tah.
Dunblane,	Dūn-blānē'.	Eubœa,	Ū-bēē'-ah.	Gatineau,	Gah-tēe-nō'.
Duncaulby,	Dūnk'-ane-be.	Euphrates,	Ū-frā'-tēs.	Geelong,	Ge-long'.
Dundalk,	Dūn-dawk'.	Europe,	Ū'-ropē.	Geneva,	Jē-nēē'-vah.
Dunedin,	Dūn-ēd'-in.	Everest,	Ēv'-e-rest.	Genoa,	Jēn'-o-nā.
Dunfermline,	Dūn-furm'-lin (-far').	Evora,	Ēv'-o-rah.	Georgia,	Jōr'-jē-ah.
Dungannon,	Dūn-gān'-non.	Exeter,	Ēk'-e-ter.	Germany,	Jur'-ma-ne.
Dungarvon,	Dūn-gar'-von.			Ghanta,	Gawts.
Dungeness,	Dūn-jē-ness'.	Falkirk,	Fāl'-kirk (-kirk').	Ghent,	Gent.
Dunkeld,	Dūn-kēld'.	Falmouth,	Fāl'-mouth.	Ghizeh,	Gēē'-zeh.
Dunkirk,	Dūn-kirk' (Dun').	Farne,	Farn.	Ghuznee,	Gūz'-nee.
Dunmanus,	Dūn-man'-us.	Faroe,	Fah'-ro (Fā-).	Gibraltar,	Jīb-rawl'-tar.
Dunmore,	Dūn-mōrē'.	Fayetteville,	Fā-ēt-vil.	Gibon,	Jā-hōn'.
Dunoon,	Dūn-oon'.	Feejee,	Fēē'-jēē.	Gilolo,	Jā-lō'-lo.
Dunse,	Dūnce.	Fermanagh,	Fēr-mah'-nah.	Girgeh,	Jēē'-jeh.
Durham,	Dur'-am.	Fermy,	Fēr-moy'.	Girgenti,	Jir-jēn'-tē.
Dusseldorf,	Dūs'-sel-dorf.	Fernando Po,	Fēr-nan'-do-pō.	Giamorgan,	Gīe-mor'-gan.
Dwina,	Dwī'-nah.	Ferrara,	Fēr-rah'-rah.	Glasgow,	Glas'-gō.
		Ferrolle,	Fēr-rōlē'.	Gloucester,	Glōs'-ter.
		Fozzan,	Fōs-zah'.	Goa,	Gō'-ah.
Earn,	Ūrn.	Finisterre,	Fīn-ia-tair'.	Gobi,	Gō'-bēē.
Ebro,	Ē'-bro.	Finland,	Fīn'-land.	Godavery,	Gō-dah'-ver-e.
Ecbatana,	Ēk-bāt'-anab.	Finmark,	Fīn'-mark.	Godrich,	Gōdē'-ritoh.
Ecuador,	Ēk-wah-dōrē'.	Finster-aar-Horn,	Fīn'-ster-ahr'-horn.	Goconda,	Gōl-kōn'-dah.
Edinburgh,	Ēd'-in-bur-ruh (-burg).	Flamborough,	Fīlām'-lur-ro.	Gondar,	Gōn'-dar.
Egmont,	Ēg-mont.	Flensborg,	Fīlēs'-buorg.	Goree,	Go-rē'.
Egripo,	Ēg-re-po.	Florence,	Fīlōr'-ence.	Gothenburg,	Gōt'-en-burg.
Egypt,	Ē'-jīpt.	Flores,	Fīlō'-rēs.	Gottingen,	Gōt'-ting-en.
Ehrenbreitstein,	Ā-rēn-brīte'-stīne.	Florida,	Fīlōr'-e-dah.	Gottland,	Gōt'-land.
Eigg,	Ēeg.	Fogg,	Fō'-gō.	Gozo,	Gōz'-so.
Elba,	Ēl'-ba.	Fontainebleau,	Fōn-tāne-blō.	Gracias-a-Dios,	Grah'-se-ōs-ah-jē'-ōs.
Elbe,	Ēlb.	Foo-chow-foo,	Fōo-chow-foō'.	Grampians,	Grām'-pe-an.
Elberfeld,	Ēl'-ber-fēld.	Forfar,	Fōr'-far.	Granada,	Grah-nah'-ah.
Elburn,	Ēl'-burz.	Formentara,	Fōr-mēn-tā'-rah.	Grand Chaco,	Grahn'-chah'-kō.
Elephanta,	Ēl'-e-fān'-tab.	Formosa,	Fōr-mō'-sah.	Grand Maun,	Grand-mā-nan'.
Eleuthera,	Ē-lū'-the-rah.	Fremont,	Frē'-mont.	Grand Pré,	Grang-prā'.
Elgin,	Ēl'-gin.	Fribourg,	Frī'-burg.	Granicus,	Grān'-f-kus.
El Kahirah,	Ēl-kah'-he-rah.	Frio,	Frēē'-o.	Gratz,	Grāts.
Ellesmere,	Ēl-lēs-mēre.	Frische Haaf,	Frīsh'-e-haff.	Greenock,	Grēē'-nok.
Elora,	Ēl-lō'-rah.	Funchal,	Foon-shal'.	Greenwich,	Grēēn'-īd.
Elmina,	Ēl-mēē'-nē-l.	Funda,	Fūn'-de.	Groningen,	Grōn'-ing-en.
El Paso,	Ēl-pah'-so.	Funen,	Fōo'-nen.	Guadalavir,	Gwah-da-lah'-ve-ar (-ar').
Elsinore,	Ēl-sin-ōrē'.	Furukabad,	Fur-ruk'-a-bad'.	Guadalaxara,	Gwah-da-lax-ah'-rah.
Elva,	Ēl'-va.	Fyzabad,	Fī-zā-bad'.	Guadalquivir,	Gwah-dal-ke-vēē'.
Ely,	Ē'-lēe.	Gabarus,	Gah-bah-roos'.	Guadeloupe,	Gaw-de-loop'.
Embsden,	Ēmb'-den.	Gaceta,	Gah'-ah-tah.	Guadiana,	Gwah-de-ah'-nah.
Ems,	Ēma.	Galacia,	Gah'-lats.	Guanaruto,	Gwah-na-hwah'-to.
Enfumbé,	Ang-fū-mā'.	Galacis,	Gah'-lats.	Guadalupe,	Gwar-daf-wēē'.
England,	Ing'-glānd.	Galapagos,	Gah-lah'-pah-gōs.	Guatemala,	Gwah-te-mah'-lah.
Ennis,	Ēn'-nis.				

Gnaviare, Gwah-ve-ah'-râ.	Hurdwar, Hurd-war'.	Kairwan, Kîre-wahn'.
Gnayaquil, Gwi-a-kêl'	Huron, Hû'-ron.	Kaisarieh, Kî-zar-êê'-eh.
Guernsey, Gurn'-ze.	Hydra, Hê'-drâh.	Kakama, Kah-kê'-mah.
Guiana, Gs-ah'-nah.	Hyerès, He-air'.	Kalahari, Kah-lah-hah'-re.
Guildford, Gîl'-ford.		Kalmar, Kal'-mar.
Guinea, Gîn'-e.	Iberville, I'-ber-vil.	Kamchatka, Kahm-ohah't'-kah.
Gwalior, Gwah'-le-ôr.	Ida, I'-dah.	Kamouraska, Kah-moo-raa'-kah.
	Idaho, I'-da-ho.	Kanawa, Ka-naw'-wa.
Haarlem, Hahr'-lêm.	Idria, I'-drê-ah.	Kangaroo, Kang-ga-roo'.
Haddington, Hâd'-ding-ton.	Idunea, I'd-oo-mê'-ah.	Kara, Kah'-rah.
Hadramaut, Hah-drah-mout'.	Ierne, I-ôr'-ne.	Karakorum, Kah-rab-kô'-rum.
Haemus, Hê'-mus.	Il, Ê'-lee.	Kassandra, Kas-san'-drah.
Hague, Hâg.	Illinois, Il-le-nois' (-noî').	Katmandoo, Kat-man-doo'.
Hainan, Hî-nan'.	Inagua, Ê-nah'-gwah.	Katrine, Kâ'trin (Kâ't').
Haldimand, Hâl'-de-mand.	India, In'-de-a (-je).	Keith, Kêth.
Halle, Hah'-le.	Indes, In'-dêz (-jiz).	Kelat, Ke-lat'.
Hamadan, Hah-mah-dahn.	Indore, In-dôrê.	Keneb, Kê'-eh.
Hamah, Hah'-mah.	Indus, In'-dus.	Kenia, Ê'-ne-ah.
Hamburg, Hâm'-burg.	Innsbrûck, In'-brook.	Kenmare, Kên-mair'.
Hammerfest, Ham'-mer-fest.	Inverary, In-ve-râ'-re.	Kennebec, Kên-ne-bêk'.
Hampshire, Hamp'-shêr.	Inverness, In-ve-nêss'.	Kertch, Kêrch.
Hang-chow-foo, Hahng-chou-foo'.	Iona, I-ô'-nah.	Keshin, Kêsh-êê'.
Hanover, Hân'-o-ver.	Ionian, I-ô'-ne-an.	Kesho, Kêsh'-o.
Hartlepool, Hâr'-tl-pool.	Iowa, I'-o-wah.	Keswick, Kê'-wik (Kêz'-ik).
Harts, Hâr'te.	Ipsambul, Ip-sam-hool'.	Khartum, Kâr-toom'.
Hastings, Hâstê'-ings.	Ipewich, Ips'-wich.	Khingan, Kîng-gah'.
Kâttaras, Hât'-te-ras.	Irak Arabi, Ê-rak'-ar-a-be.	Khiva, Kê'-vâh.
Havel, Hah'-vel.	Iran, Ê-rah'n'.	Khokan, Ko-kan'.
Hawaii, Hah-wî'-e.	Ireland, Îrê'-land.	Khyber, Kî-ber.
Ha-vaah, Hah'-wah.	Irkutak, Îr-kootak.	Kiachta, Kê-ak'-tah.
Hawick, Haw'-ik (-wick).	Irawaddy, Îr-ra-wôd'-de.	Kidderminster, Kid-der-min'-ster.
Hayti, Hâ'-te.	Irish, Îr'-tish.	Kiel, Kêl.
Hebrides, Hêb'-ri-dêz.	Irvine, Ôr'-vin.	Kiev, Kê-êv'.
Hedjaz, Hêj-ahr'.	Islay, I'-lây.	Kildare, Kil-dair'.
Heidelberg, Hê-dêl-burg.	Ismael, Îs-mah-êêl'.	Killmandjaro, Kîl-e-man-jah-ro'.
Heligoland, Hêl'-e-go-land.	Isipahan, Îs-pa-bahn'.	Kilkenny, Kîl-ken'-ne.
Helsingfors, Hêl'-sing-fors.	Italy, I'-a-le.	Kil-lala, Kîl-la-lah'.
Henlopen, Hên-lô'-pen.	Itasca, I-tas'-kah.	Killarney, Kîl-lar'-ne.
Hérat, Hêr-ah't'.	Iviza, Ê-vêz'-ah.	Kilmarnock, Kîl-mar'-nôk.
Herculanum, Hêr-ku-lâ'-ne-am.	Istacchuati, Ês-tak-se-hwat'.	Kilrush, Kîl-rush'.
Hereford, Hêr'-e-ford.		Kilseyth, Kîl-sithê'.
Hertford, Har'-ford.	Jacques Cartier, Zhak-car-te-3'.	Kincardine, Kîn-kar'-deen.
Essee-Cassel, Êsêe-kâs'-sel.	Jaffa, Jâf'-fah (Yaf'-fah).	King-ki-tao, King-ke-tah'-o.
Essee-Darmstadt, Êsêe-darm'-stât.	Jamaica, Ja-mâ'-kah.	King-ki-chiang, King-ki-che-ang'.
Essee-Homburg, Êsêe-hom'-burg.	Japan, Ja-pan'.	Kinross, Kîn-ross'.
Etalmar, Êtâl-mar.	Jassy, Yâs'-sêe.	Kineale, Kîn-âlê'.
Hillah, Hîl'-lah.	Java, Jah'-vah.	Kiolen, Kî-ô'-len.
Himalaya, Him-a-lî'-a (-lî'-yah).	Jaxartes, Jâx-ar'-têz.	Kirghis, Kur-gêz'.
Hindoo Koosh, Hîn'-doo-koosh.	Jedburgh, Jêd'-burg.	Kirkcaldy, Kîr-kawl'-de.
Hindustan, Hîn-dos-tan'.	Jelalabad, Jê-lah-lah-bahd'.	Kirkcudbright, Kêr-koo'-brêd.
Hispaniola, Hîs-pân-e-ô'-la.	Jersey, Jêr'-ze.	Kirkintilloch, Kîr-în-tîl'-lok.
Hoang-Ho, Ho-ang'-hò.	Jerusalem, Jêr-oo'-sa-lem.	Kiusiu, Kê-oo'-sê-oo'.
Hohenlinden, Ho-en-lîn'-den.	Joannes, Jo-an'-nêts.	Kizil Irmak, Kîz-il-îr'-mak.
Holland, Hôl'-land.	Jollette, Jôl-le-êv'.	Klansenburg, Kîow'-sen-borg.
Kolstein, Kôl'-stêne.	Jordan, Jôr'-dan.	Kodiak, Kô'-de-âk.
Holyhead, Hôl'-e-hed.	Juan de Fuca, Jû'-ahn-de-foo'-kah.	Königsburg, Kên'-îga-burg.
Holywell, Hôl'-e-well.	Juan Fernandez, Jû'-ahn-fer-nan'-dêz.	Kordofan, Kôr-do-fan'.
Rome, Ês-mes.	Judea, Jû-dêê'-ah.	Kosciusko, Kôs-se-nê'-ko.
Ronduras, Hôn-doo'-raa.	Juggernaut, Jûg'-gur-nawt.	Kremnitz, Krêm'-nîz.
Ronolzin, Hôn-o-loo'-loo.	Jungfrau, Yoong'-frou.	Krishna, Kîsh'-nah.
Hoogly, Hoog'-le.	Jura, Joo'-rah.	Kuenlun, Kwên-loon'.
Huddersfield, Hîd'-ders-field.	Jutland, Jût'-land.	Kuka, Koo'-kah.
Hue, Hwâ (Hoo-â).		Kur, Koor.
Humber, Hîm'-ber.	Kafraria, Kâf'-ra-re-ah.	Kurdistan, Koor-dis-tan'.
Hungary, Hung'-ge-re.	Kaifong, Kî-fong'.	Kurle, Koo'-ril.

Lealand, ...	Lah'-land.	Loire, ...	Lwör.	Manchooria, ...	Män-choo'-re-ah.
La Beauce, ...	Lah-böc'	Lombardy, ...	Löm'-bar-de.	Manhattan, ...	Män-hat'-tan.
Labrador, ...	Läb-ra-dö're.	Lombok, ...	Löm-bök'.	Manilla, ...	Ma-ni'-la.
Labuan, ...	Lah-boo-ahn'.	Lomond, ...	Lö-mönd.	Manitoulin, ...	Män-e-too'-lin.
Laccadive, ...	Läk'-ka-dive.	Longueil, ...	Long-gül'.	Manheim, ...	Män'-hime.
Lachine, ...	Läh-äh'sän'.	Loo Choo, ...	Loo-choo'.	Mantua, ...	Män'-tu-a.
Lachute, ...	Lah-shoot'.	L'Orient, ...	Lö-re-oh'ng'.	Maracaybo, ...	Mar-a-ki'-bo.
Lacba, ...	Lak'-ah.	L'Original, ...	Lö-reen-yahl'.	Marajk, ...	Mah-rah'-jo.
Ladoga, ...	Lah-dö'-gah.	Lothiringe, ...	Lo-be-ne-air'.	March, ...	Mark.
Ladrones, ...	Lah-drönes'.	Lothian, ...	Lö-the-an.	Marce, ...	Mah-ree'.
La Hogue, ...	Lah-Hög'.	Loughborough, ...	Lüf-bur-reh.	Waremma, ...	Mah-rem'-mah.
Lahore, ...	Lah-hör'.	Louisiana, ...	Loo-e-re-ahd'.	Margarie, ...	Mar-gah-ree'.
Lammermoor, ...	Läm'-mer-moor.	Lowestoft, ...	Loo-e-re-ah'-nah.	Mariana, ...	Mah-re-ah'-nah.
Lanark, ...	Län'-ark.	Lubeck, ...	Lös'-toft.	Marie Galante, ...	Mah-rö'-ga-lahnt'.
Lancashire, ...	Lank'-as-aher.	Luce, ...	Lü'-bek (-bék').	Marische-gebirge, ...	Mah-rish'-a-ga-bir'-ga.
Lancaster, ...	Lank'-as-ter.	Luceyoe, ...	Loo-ky'-oe.	Marmora, ...	Mar'-mö-rah.
Laos, ...	Lah'-os.	Luca, ...	Luk'-kah.	Marocco, ...	Mä-h-rök'-ko.
La Paz, ...	Lah-pah' (-pas').	Luce, ...	Lüce.	Marquesas, ...	Mar-ki'-sas.
La Plata, ...	Lah-plah'-tah.	Lucerne, ...	Loo-ern'.	Marsala, ...	Mar-sah'-lah.
La Prairie, ...	Lah-prä-re'.	Luxern, ...	Lü'-ern'.	Marville, ...	Mar-säl'.
La Fueba, ...	Lah-pwëb'-lah.	Luxnow, ...	Lük'-now.	Martaban, ...	Mar-ta-ban'.
La Rochelle, ...	Lah-ro-shëf'.	Lupata, ...	Loo-pah'-tah.	Martinique, ...	Mar-te-nëk'.
Lassa, ...	Lah'-sä.	Lurgan, ...	Lür'-gan.	Mascarene, ...	Mäs-ka-rëen'.
L'Assomption, ...	Läs-song-se-ong'.	Luxembourg, ...	Lux'-em-burg.	Massachusetts, ...	Mäs-sa-choo'-seta.
Lattakoo, ...	Lät-tä-koo'.	Lynn Regis, ...	Lin-rë'-jis.	Matamoras, ...	Mah-tah-mö'-raha.
Lauenburg, ...	Lou'-en-burg.	Lyons, ...	Lü'-onz.	Matanzas, ...	Mah-tan'-sas.
Lansanne, ...	Lö-zahn'.	Mabou, ...	Mah'-böö.	Matapan, ...	Mat-a-pan'.
Lanversee, ...	Lou'-er-sä.	Macao, ...	Mah-kow'.	Matina, ...	Mah-të'-nah.
Leamington, ...	Lém'-ing-ton.	Maccassar, ...	Mah-kas'-sar.	Matemal, ...	Matë-mäl'.
Leeuwijn, ...	Lëë'-win.	Macclesfield, ...	Mäk'-kiz-field.	Maulmain, ...	Mäl'-mne'.
Leghorn, ...	Lëg'-horn.	Macquarie, ...	Mäk'-kwör'-re.	Mauritius, ...	Maw-rish'-e-us.
Le Havre, ...	Leh-hav'r'.	Madagascar, ...	Mäd-a-gäs'-kar.	Maynooth, ...	Mä-nooth'.
Leinster, ...	Lün'-ster (Lëen'-).	Madame, ...	Mah-dahm'.	Mayo, ...	Mä'-o.
Leipic, ...	Lipe'-sik.	Madawaska, ...	Mad-aw'-ka.	Mazatlan, ...	Mäs-at'-lan'.
Leith, ...	Lëeth.	Madeira, ...	Mah-dä'-rah.	Meander, ...	Me-an'-der.
Leitrim, ...	Lëë'-trim.	Madras, ...	Ma-dras'.	Meath, ...	Mëeth.
Leman, ...	Lë'-man (Lém').	Madrid, ...	Mah-drid' (Mad'-rid).	Mocca, ...	Mëk'-kah.
Lemberg, ...	Lém'-burg.	Maestrom, ...	Mäle'-stäm.	Mechlin, ...	Mëk'-lin.
Lena, ...	Lë'-na.	Maestricht, ...	Mäe'-trikt.	Mecklenburg Schwerin, ...	Mëk'-len-burg-ahwä-rëen'.
Leon, ...	Lä-on (Lëë'-on).	Magdalen, ...	Mäg'-da-lën.	Mecklenburg Strelitz, ...	Mëk'-len-burg-strëf'-itz.
Lepanto, ...	Le-pän'-to.	Magdalena, ...	Mäg'-da-lë'-nah (-lë').	Medina, ...	Me-dëë'-nah.
Lepreau, ...	Lëh-prü'.	Magdeburg, ...	Mäg'-de-burg.	Mediterranean, ...	Mëd-e-ter-rä'-ne-an.
Lerwick, ...	Lë'-ik.	Magellan, ...	Mah-jëf'-lan.	Meerut, ...	Mëë'-rut.
Leuca, ...	Le-oo'-kah.	Magenta, ...	Mah-jën'-tah.	Megantic, ...	Mä-gan'-tic.
Leven, ...	Lëv'-en.	Mageroe, ...	Mäg-e-rö'.	Meissen, ...	Mÿ'-sen.
Leyden, ...	Lÿ'-den (Lä').	Maggiore, ...	Mah-jö'-rä.	Mekines, ...	Mëk'-e-nas.
Libertad Realejo, ...	Le-ber-tahd'-rä-ah-la'-jo.	Mahanuddy, ...	Mah-hah-noo'-de.	Mekong, ...	Mä-kong'.
Lichfield, ...	Litoh'-field.	Mahe, ...	Mah-hë'.	Mekran, ...	Mëk-ran'.
Liechtenstein, ...	Lëëk'-ten-stine.	Mahone, ...	Mah-höne'.	Melbourne, ...	Mël'-burn.
Liege, ...	Lëëj.	Maimaitchin, ...	Mi-mi-chin'.	Memel, ...	Mëm'-el.
Lille, ...	Lëë.	Main, ...	Mäne.	Memphremagog, ...	Mëm-frë-mä'-gog.
Lima, ...	Lë'-mal (Lÿ').	Majorca, ...	Ma-jör'-kah.	Menai, ...	Mën'-a (-i).
Limoges, ...	Lëe-möäh'.	Malabar, ...	Ma-la-bar'.	Menam, ...	Mä-nam'.
Lincoln, ...	Link'-un.	Malacca, ...	Mah-läk'-kah.	Mendocino, ...	Mën-do-së'-no.
Linthgow, ...	Lin-lith'-gö.	Malaga, ...	Mäl'-a-ga.	Mendoza, ...	Mën-dö'-zah.
Lint, ...	Lint.	Malak, ...	Mäl'-lar.	Mer de Glace, ...	Mair-de-gläs'.
Lipari, ...	Lip'-a-re (Le-pah'-re).	Malaysia, ...	Ma-lä'-she-ah.	Mergui, ...	Mer-geé'.
Lippe, ...	Lip'-pe.	Maldive, ...	Mäl'-dive.	Merida, ...	Mër'-e-dah.
Litany, ...	Lëe-tah'-ne.	Malmö, ...	Mäl'-mo.	Merioneth, ...	Mer'-e-o-neth.
Llanelly, ...	Län'-le (-ëh').	Malö, ...	Mah'-lo.	Merrimac, ...	Mer'-re-mak.
Loango, ...	Lo-ang'-go.	Malta, ...	Mawl'-tah.	Mersey, ...	Mur'-ze.
Loch Etive, ...	Loch-ëv'-iv.	Malvern, ...	Mäl'-vern (Maw').	Merthyr Tydvil, ...	Mur'-thür-tid'-vil.
Loch Fyne, ...	Loch-fine'.	Manaar, ...	Mah-nahr'.	Messina, ...	Mes-sëë'-nah.
Loch Linnhe, ...	Loch-lin'-ne.	Manchester, ...	Mä'-ches-ter.		
Lochy, ...	Loch'-e.				

Mets,	Mets.	Nankin,	Nan-kéén'.	Odesa,	Ó-des'-sa.
Meuse,	Múre.	Nanling,	Nán-ling'.	Oesel,	Ó-sel.
Mexico,	Méx'-e-kó.	Nantes,	Nants.	Ohio,	Ó-hí'-s.
Miaco,	Me-ah'-ko.	Nantucket,	Nán-tuk'-et.	Oksechohee,	O-ke-chó'-bee.
Michigan,	Mish'-e-gan.	Naponee,	Na-pa-nee'.	Okhotak,	O-kotak'.
Michipicoten,	Mich-ip-pe-kó'-ten.	Napo,	Nah'-pó.	Oland,	Ó'-land.
Milaa,	Míl'-an (Mí-lan').	Nassau,	Nar'-saw.	Oldenburg,	Óle'-den-burg.
Miltain,	Mílt-réén'.	Natal,	Nah'-tal'.	Oleron,	Ó-lá-rong'.
Milwaukie,	Míl-waw'-ke.	Natches,	Natch'-ez.	Olympus,	Ó-lím'-pús.
Mindanao,	Mín-dah-nah'-o.	Nanpla,	Naw'-ple-a.	Omagh,	O-mah'.
Mindoro,	Mín-dó-ro.	Navan,	Nav'-an.	Omaha,	Ó'-ma-haw.
Minho,	Méén'-yó (Mín'-hó).	Navarino,	Nah-vah-réé'-no.	Oman,	Ó-man'.
Minnesota,	Mín-ne-só'-ta.	Nasareth,	Nar'-a-reth.	Omos,	Ó-mó'-ah.
Minorca,	Mín-ór'-ka.	Nase,	Nah'-se.	Omega,	Ó-nó'-ga.
Miqueelon,	Mík-e-lon'.	Neagh,	Ná.	Ontario,	Ón-tá'-ré-s.
Miramichi,	Míra-mí-shéé'.	Nebraska,	Ne-bras'-ka.	Ooroomiah,	Oo-roo-méé'-ah.
Missisquoi,	Mis-sis'-kwah.	Nedjed,	Ned'-jed.	Oporto,	O-pórt'-té.
Mississippi,	Mis-sis-síp'-pe.	Nejed,	Ned'-jed.	Oran,	O-ran'.
Missouri,	Mis-soo'-re.	Negropont,	Neg-ró-pont.	Oregon,	Ór'-é-gon.
Mobile,	Mó-béél'.	Neagh,	Ná'-na.	Orfah,	Ór'-fah.
Mochoa,	Mó'-ka.	Nepaul,	Ne-paw'l'.	Orilla,	O-ríl'-lá-a.
Modena,	Mó'-de-nah (Mód'-).	Nephin Beg,	Néf-in-beg'.	Orinoco,	Ó-ré-nó'-kó.
Mogador,	Mog-a-dóré'.	Nerbuddah,	Nur-bud'-da.	Orisaba,	Ór-e-zah'-bah.
Mohawk,	Mó'-hawk.	Neufchatel,	Náf-shah-tel'.	Orkneys,	Órk'-néés.
Moldavia,	Mól-dá'-ve-a.	Neva,	Né'-va (Ná-vah').	Orleans,	Ór'-le-anz.
Moluccas,	Mo-luk'-kaz.	Nevada,	Ná-vah'-dah.	Ormuz,	Ór'-muz.
Monaghan,	Món'-a-hnn.	Nevada-de-Sorata,	Ná-vah'-dah-dá-so-rah'-tah.	Orontes,	Ó-rón'-tees.
Monmouth,	Món'-mouth.	Newfoundland,	Nú-fund-land'.	Ortegal,	Ór'-te-gal.
Monongahela,	Mo-non-ga-hé'-la.	New Orleans,	Nú-ór'-le-ans.	Oruba,	Ó-roo'-bah.
Mons,	Monga.	New Zealand,	Ná-zee'-land.	Oshawa,	Osh'-ah-wah.
Montagne,	Món'-ta-gú.	Ngami,	N'gah'-mee.	Ossa,	Ó'-sa.
Montana,	Món-tah'-nau.	Niagara,	Ní-ag'-a-rah.	Ostend,	Óe-tend'.
Montawk,	Mon-taw'k'.	Nicaragua,	Nik-ah-rah'-gwah.	Otranto,	Ó-trán'-tó.
Montcalm,	Mónt Kahn'.	Nice,	Nééce.	Ottawa,	Ót'-tah-wah.
Monte Video,	Món'-te-vid-e-o.	Nicober,	Nik-o-bar' (Ník'-).	Ouse,	Ooz.
Montgomery,	Mónt-gím'-e-ro.	Nicolet,	Nik-o-lé'.	Owhyhee,	O-why'-héé.
Montmorency,	Mónt-mo-rén'-se.	Nicopoli,	Ne-kóp'-o-le.	Oxford,	Óx'-ford'.
Montpellier,	Mónt-pel'-yer.	Nicozia,	Ne-ko-zéé'-ah.	Orus,	Óx'-us.
Montreal,	Món-tre-all'.	Niemen,	Néé'-men.		
Mooltan,	Mool-tahn'.	Niger,	Ní'-jer.	Pacific,	Pá-síf'-ik.
Moorshedabad,	Moor-shed-a-bad'.	Nijni-Novgorod,	Nízh-ne-nóv-go-ród'.	Padua,	Pád'-u-a.
Moravia,	Mo-rá'-ve-a.	Nikolaiev,	Ne-ko-lí-ev'.	Paisley,	Páze'-le.
Moray,	Múr'-re.	Nile,	Níle.	Palawan,	Pah-lah-wahn'.
Morocco,	Mo-rók'-ko.	Nimes,	Nééma.	Palermo,	Pah-ler'-mó.
Mecow,	Més'-kó.	Ning-po,	Níng-pó'.	Palestine,	Pál'-es-tíne.
Mosul,	Mó'-sul.	Nippon,	Ní'-fon (Ní'-ón').	Palk,	Pawk.
Monkden,	Moók-den'.	Nipissing,	Níp'-is-síng.	Palma,	Pah'-mah.
Moulins,	Moo-lang'.	Nordkyn,	Nort'-kín.	Palmyra,	Pál-mí'-ra.
Mourne,	Mórne.	Norway,	Nor'-wá.	Palos,	Pah'-los.
Mourouk,	Moor-zook'.	Norwich,	Nor'-ridj.	Pamir,	Pah-méer'.
Mosambique,	Mo-zám-béék'.	Noesi Be,	Nos'-se-bá.	Pamlico,	Pám'-lé-kó.
Mulrea,	Múl'-rá.	Notre Dame,	Nótr'-dahm'.	Panama,	Pan-a-mah'.
Mullingar,	Múl-lín-gar'.	Nottawasaga,	Nó-ta-wa-saw'-ga.	Panjim,	Pan-zheeng'.
Munich,	Mú'-nik.	Nova Zembla,	Nó-vah-zem'-blá.	Papua,	Pap'-oo-a.
Murrumbidgee,	Múrr-um-bid-jee.	Nubia,	Nú'-be-a.	Para,	Pah-rah'.
Muscat,	Mús-kat'.	Nun,	Nóon.	Paraguay,	Par'-ah-gwá.
Mysore,	Mí-sóré'.	Nuremberg,	Nú-rem-burg.	Paramaribo,	Par-a-mar'-i-bó (Pa-ra-ma-ré'-bó).
		Nyansa,	Ne-ahn'-za.	Parana,	Par-ah-nah'.
Naas,	Ná'-as (Náice).	Nyassi,	Ne-ás'-s.	Paris,	Pah'-re-ah.
Nablous,	Nah-bloos'.			Parime,	Pah-réé'-ma.
Nagasaki,	Nah'-ga-sah-ke.	Oahu,	Wah'-hoo.	Paris,	Par'-is (Pah-ré').
Nagpore,	Nag-póré'.	Oakham,	Óke-ham.	Parma,	Par'-ma.
Nairn,	Nárn.	Obi,	Ó'-bee.	Paropamisian,	Pah-ro-pah-me-sahn'.
Namaqua,	Nah-mah'-kwah.	Oceania,	Ó-she-ah'-ne-a.	Passamaquoddy,	Pas-sam-a-quod'-dy.
Namur,	Ná'-mur.	Oder,	Ó'-dér.		

Passaro, Pās-sah'-rō.	Prussia, Prūsh'-ya (Proosh'-ā).	Russia, Rūsh'-e-ah (Roosh'-e-ah).
Passau, Pās'-sow.	Puerta Principe, Poo-ur'-tō-prīp'-sē-pā.	Rustchuk, Rōos'-chōok'.
Patagonia, Pata-gō'-ne-ah.	Punjab, Pūn-jāh'.	Rutherglen, Roo-thēr-glōn' (Rūg'-lōn).
Patras, Pah-trah's.	Puntas Arenas, Poon'-tas-ah-rā'-nas.	
Pavia, Fah-vēō'-ah.	Purus, Poo'-rooce.	Saale, Sah'-lā.
Pecheles, Pā'-che-lōō'.	Putumayo, Poo-too-mā'-ō.	Sacramento, Sah-krāh-mēn'-to.
Pedee, Pē'-jēō'.	Pyrenees, Pīr'-e-nēēs.	Safed, Sah-fēd'.
Peebles, Pēē'-blir.		Saghalien, Sah-gah-lēō'-cu.
Pegu, Pē-goo'.	Quathlamba, Kwat-lam'-bah.	Saguenay, Sag-e-nā'.
Peipus, Pē'-pus (Pā'-e-pōos).	Quebec, Kwē'-bēk'.	Sahara, Sah-hah'-rah.
Peikin, Pēē'-kin (Pē'-kin').	Quessaltenango, Kā-sal-tā-nan'-gō.	Saida, Sī'-dah.
Pelling, Pā'-liog.	Quito, Kēs'-to.	Saigon, Sī'-gon'.
Pembina, Pēm'-be-nah.		Saima, Sī'-mah.
Pembroke, Pēm'-brook.	Rabatt, Rah-bah't.	St. Alban's, Sāint-aw'l'-bana.
Penang, Pē-nang'.	Racine, Rah-sēēn'.	St. Anselme, Sāht-ang-selm'.
Pennsylvania, Pēn-sil-vā'-nē-ah.	Rajpootana, Rahj-poo-tah'-nah.	St. Bernard, Sōnt-ber-nard'.
Penobscot, Pē-nōō'-skōt.	Raleigh, Raw'-lē.	St. Christophe, Sang-krōōs-tōf'.
Pensacola, Pēn-sah-kō'-lah.	Rampoor, Ram-poor'.	St. Croix, Sang-krwaw' (Saint-kroif').
Pensance, Pēn-sanoē'.	Rangoon, Rang-goon'.	St. Denis, Sahng-de-nēē'.
Pernamboco, Pēr-nām-boo'-kō.	Rappahanock, Rāp-pā-hān'-nok.	St. Etienne, Sāht-ā-tē-en'.
Perrot, Pēr-rōō'.	Raratonga, Rah-rah-tōng'-gah.	St. Eustasia, Sāint-ū-stā'-sho-ah.
Persepolis, Pēr-sēp'-ō-lia.	Ras al Haad, Rāh-ahl-hahd'.	St. François, Sāng-frang-swaw'.
Perru, Pē-roō'.	Rathkeale, Rath-kālē'.	St. Gothard, Sāht-gōt'-hard.
Peuugia, Pē-roo'-jah.	Rathlin, Rath-līn'.	St. Helena, Sāint-hē-lē'-na.
Peshawar, Pēsh-ah'-wur.	Ratisbon, Rāt'-le-bon.	St. Heller, Sāht-hē'l'-e-er.
Pesth, Pēst.	Ravenna, Rah-ven'-nah.	St. Hyacinth, Sāhtng-tē-ah-sang'.
Petchora, Pēch'-ō-rah.	Re, Rā.	St. Iréné, Sāht-e-rā-nē'.
Peterborough, Pē-ter-bur-rah.	Reading, Rēd'-ding.	St. Lawrence, Sāint-law'-renee.
Peticodiac, Pē-tē-ōōd'-yak'.	Realejo, Re-ah-lē'-ho.	St. Liboire, Sāht-le-bwār'.
Petropaulovski, Pē-tro-pow-lōō'-skō.	Reggio, Rēd'-jō.	St. Louis, Sāint-loo'-is.
Philadelphia, Fil-ā-del'-fē-ah.	Peiklavik, Pē-kī-ā-vik.	St. Lucas, Sāht-loo'-kas.
Philippine, Pīl'-ip-pīn.	Renfrew, Rēn'-frew.	St. Malo, Sēnt-mah'-lō.
Piacenza, Pē-ah-chēn'-zah.	Restigouche, Rēs-te-goosh'.	St. Marie, Sāht-mā-ree'.
Pichina, Pē-chīn'-kah.	Rennion, Rā-ū-ne-ōng'.	St. Maurice, Sang-mō-rēōōē'.
Pictou, Pīk'-too (-too').	Revel, Rēv'-el.	St. Michel, Sāint-mī'-kel.
Piedmont, Pēēd'-mont.	Rheims, Rēēms.	St. Ours, Sāht-ōōr'.
Pietermaritzburg, Pēē-ter-mahr'-its-burg.	Rhine, Rīnē.	St. Petersburg, Sāint-pēē-ter-s-burg.
Pilcomayo, Pīl-kō-mah'-yō (-mā'-ō).	Rhodes, Rōdz.	St. Pierre, Sāht-pē-air'.
Pindus, Pīn'-dua.	Rhone, Rōnē.	St. Roque, Sāint-rōkē'.
Pisa, Pēē'-zah.	Echelieu, Rēēsh-e-loō'.	St. Scholastique, Sāhtng-āko-lāh-s-tēēk'.
Pitcairn, Pīt-cairn'.	Richibucto, Rīsh-ē-buk'-tō.	St. Therese, Sāht-tā-raiz'.
Plymouth, Pīlm'-ūth.	Rideau, Rē-dō'.	St. Vincent, Sāint-vīn'-seut.
Po, Pō.	Riesengebirge, Rēe-zen-gā-beer'-gā.	Salado, Sah-lāh'-lō.
Poland, Pō'-land.	Riga, Rēs'-gah (Rī').	Salamanca, Sah-lah-mahng'-kah.
Polynesia, Pōl'-e-nēē'-she-ā.	Rimouski, Rēē-moos'-ke.	Salée, Sah'-lē.
Pomona, Pō-mō'-na.	Rio Grande, Rēs'-ō-Grāhn'-de.	Salisbury, Sawlē'-ber-re.
Pompeii, Pōm-pā'-yēe.	Rio Janeiro, Rēs'-ō-jā-nā'-rō.	Saloniki, Sāh-lo-nēē'-keē.
Pondicherry, Pōn-de-shēr'-re.	Rio Negro, Rēs'-ō-nā'-grō.	Salop, Sāl'-ōp (Sā'-lōp).
Fonta Delgada, Pōn'-tah-del-gah'-dah.	Riviere du loup, Rē-ve-air'-doo-loō'.	Salwen, Sāhl-wēn'.
Pool, Pōol.	Roanoke, Rō-an-ōkē'.	Salzburg, Sāltz'-burg.
Popocatepetl, Pōp-ō-cah-tā-pet'l'.	Roca, Rō'-kah.	Samarang, Sām-a-rang'.
Portage du Fort, Pōr-tāzh'-du-for.	Rochdale, Rōtch'-dale.	Samoa, Sāh-mō'-ā.
Portneuf, Pōre-noof.	Rochefort, Rōsh'-fort.	Samothrake, Sāh-mō-thral'-ke.
Porto Rico, Pōr'-to-rēs'-kō.	Rochester, Rōch'-ester.	Samothrake, } Sāh-mō-thral'-ke.
Portsmouth, Pōrts'-month.	Rodosto, Rō-dōē'-tō.	Sana, Sah'-rah'.
Portugal, Pōrt'-ā-gal.	Romanov, Rō-men-zōv'.	San Antonio, Sāh-ahn-tō'-ne-ō.
Posen, Pō'-zen.	Rome, Rōmē.	San Blas, Sāh-blah's.
Potomac, Pō-tō'-mak.	Rosetta, Rō-sē-tāh.	San Domingo, Sāh-do-mīng'-go.
Potosi, Pō-tō'-sē' (Pō-tō'-sē).	Rossignol, Rōs-sēn-yōl'.	San Francisco, Sāh-fran-sīs'-kō.
Potsdam, Pōts'-dam.	Rothesay, Rōth'-sā.	San Joaquin, Sāh-n-hō-ā-kēēn'.
Prague, Prāg.	Rotterdam, Rōt'-ter-dam.	San José, Sāh-n-hō-sā'.
Pregel, Prā'-gel.	Rouen, Rōō'-ēn.	San Juan, Sāh-n-hōo-ahn'.
Prestopans, Prēs-ton-pans'.	Rouville, Rōō-vēēl'.	San Luis, Sāh-n-loō'-is.
Prome, Prōmē.	Roxburg, Rōx'-burg.	San Marino, Sāh-n-mah-rēs'-no.
	Rügen, Rū'-gen.	San Salvador, Sāh-n-sal-va-dōrē'.

San Sebastian, ...	Sahn-sá-bah-se-ahn'.	Shippegan, ...	Shtp-pe-gán'.	Stranraer, ...	Stran-rawr'.
Sans-bonci, ...	Bang-soo-sŭ.	Shoa, ...	Shŏ'ah.	Strasbourg, ...	Stras-burg (-boor').
Santa Fe, ...	Sahn'tah-ft.	Shrewsbury, ...	Shrŭs-bŏr-e.	Stromboli, ...	Strŏm'-bo-lee.
Santa Maura, ...	Sahn-tah-mow'-rah.	Shropshire, ...	Shrŏp'-sheer.	Stromness, ...	Strŏm'-ness'.
Santee, ...	Sau-tee'.	Shubenacadie, ...	Shoo-bŏn-ak'-a-de.	Stuttgart, ...	Stu't'-gart.
Santiago-de-Com- postella, ...	Sahn-te-ah'-go-dá-com-pos- tella, ... } tá'-lah.	Shumla, ...	Shoom'-lah.	Sues, ...	Soo'-es.
Saone, ...	Sŏne.	Siam, ...	Sí-am'.	Scotfolk, ...	Sŏf'-fok.
Saou-rasa, ...	Sah-rah-gŭs'-sah.	Siberia, ...	Sí-bŏŏ'-re-ah.	Suir, ...	Shoor.
Sarawak, ...	Sah-rah-wak'.	Sicily, ...	Sí-a'-le.	Sumatra, ...	Soo-mah'-tra.
Sardinia, ...	Sar-din'-e-a.	Sierra-del-Cobre, ...	Se-er'-rah-del-ŏb'r'.	Sumbawa, ...	Soom-baw'-wah.
Saros, ...	Sah'-ros.	Sierra-Gredos, ...	Se-er'-rah-grŏ-dŏs.	Sunda, ...	Sŭn'-da.
Saakatchewan, ...	Sá-ká-tch'-e-wan.	Sierra Leone, ...	Se-er'-rah-le-ŏ'-ne.	Surat, ...	Soo-rat'.
Sasari, ...	Sah'-sah-re.	Sierra Madre, ...	Se-er'-rah-mah'-drá.	Susquehannah, ...	Sŭs-kwe-hán'-nah.
Saugen, ...	So-geen'.	Sierra Morena, ...	Se-er'-rah-mo-rŏ'-nah.	Sutlej, ...	Sŭ'-lej.
Sault, ...	Sŏ.	Sierra Nevada, ...	Se-er'-rah-ná-vah'-dah.	Swansea, ...	Swŏn'-se.
Savannah, ...	Sah-van'-nah.	Sierra Toledo, ...	Se-er'-rah-to-lŏ'-do.	Swáden, ...	Swŏ'-dŏn.
Save, ...	Sahv (-Sáve).	Sikokf, ...	Sí-ko-k'.	Switzerland, ...	Swit'-er-land.
Saxe Coburg, ...	Sáx-kr'-burg.	Silesia, ...	Sí-lee'-she-a.	Syra, ...	Sŏr'-rah.
Saxony, ...	Sáx'-o-ne.	Silistria, ...	Sí-lis'-trŏ-ah.	Syracuse, ...	Sir'-ah-kŭ-se.
Scandinavia, ...	Skán-de-nŏ'-ve-a.	Sinal, ...	Sí-ná (Sŏ'-ná-ŏ).		
Scarborough, ...	Skar'-bur-ro.	Singapore, ...	Sing-gá-pŏr'.	Tabris, ...	Tah'-brŏs'.
Scatari, ...	Skát-a-ree'.	Sinope, ...	Sín'-ŏ-pe.	Tadoussac, ...	Tad-ŏo-sak'.
Scaw Fell, ...	Skaw-fŏl'.	Siout, ...	Se-oot'.	Taganrog, ...	Tah'-gáin-rŏg.
Schelde, ...	Skŏl'-dŏ.	Sir-daria, ...	Sir-dah'-re-ah.	Tagus, ...	Tŏ'-gus.
Sohemmits, ...	Shŏm'-mítz.	Sir-i-kol, ...	Sir-e-kŏl'.	Tahiti, ...	Tah'-hŏi'-te.
Schledam, ...	Skee-dám'.	Sistova, ...	Sis-tŏ'-vah.	Tahlequah, ...	Tah'-lŏ-kwah.
Schleswig, ...	Schles'-vig.	Sitka, ...	Sit'-kah.	Tain, ...	Tŏne.
Sleswik, ...	Schles'-vig.	Skager Rack, ...	Ská-g'ŏr-rak.	Tallahassee, ...	Tal-lah-hás'-se.
Schreckhorn, ...	Shrŏk'-horn.	Skibberreen, ...	Skib-be-rŏŏr'.	Tampico, ...	Tain-pŏs-ko.
Schwartwald, ...	Shwárt'-wahld.	Skye, ...	Ski.	Tananarivo, ...	Tah-nah-nah-re-vo'.
Schwitta, ...	Shwita.	Slaney, ...	Slán'-e.	Tanganika, ...	Tahn-gáhn-yŏ'-ka.
Scilly, ...	Sí'-le.	Sleat, ...	Sléet.	Tangier, ...	Tán-jŏŏr'.
Scotland, ...	Skŏt'-land.	Sligo, ...	Sí'-go.	Tanjore, ...	Tán-jŏr'.
Scotari, ...	Skŏt'-tah-re.	Smyrna, ...	Sím'-nah.	Tanz, ...	Tán'-na.
Sebastopol, ...	Se-bás'-to-pol (-tŏ').	Socotra, ...	Sŏk'-ŏ-trah (-kŏ').	Tapajós, ...	Tah-páh'-shŏ-se.
Seeland, ...	Sŏs'-land.	Sofala, ...	So-fáh'-lah.	Taranto, ...	Tah'-rah-n-to.
Segovia, ...	Se-gŏ'-ve-ah.	Sokota, ...	So-kŏ'-tah.	Tarifa, ...	Tah-ree'-fah.
Segura, ...	Sŏ-gŏŏ'-rah.	Solent, ...	Sŏ'-lent.	Tartary, ...	Tar'-ta-re.
Seine, ...	Sŏne.	Solfarino, ...	Sŏl-fa-re'-no.	Tashkend, ...	Tash-kend'.
Selkirk, ...	Sŏl'-kirk.	Solway, ...	Sŏl'-wá.	Tasmania, ...	Tás-má'-ne-a.
Senegal, ...	Sŏn-e-gawf'.	Somali, ...	So-maw'-le.	Tatamagouche, ...	TÁ'-mah-gouah.
Senegambia, ...	Sŏn-e-gám'-be'.	Somerset, ...	Sŏm'-mer-set.	Taunton, ...	Tahn'-ton.
Sennar, ...	Sŏn-nahr'.	Soodan, ...	Soo-dahn'.	Tauras, ...	Tau'-rus.
Senne, ...	Sŏn'-neh.	Soongaria, ...	Soong-gah'-re-ah.	Tohad (Chad), ...	Cháhd.
Serampore, ...	Ser-am-pŏr'.	Sorel, ...	Sŏr-el'.	Teheran, ...	Te-her-ahn'.
Seres, ...	Sŏr'-es.	Soulanges, ...	Soo-lanzh'.	Tehuantepec, ...	Tŏ-hwan-tŏ-pŏk'.
Serinagar, ...	Ser-e-nah'-gur (-gur').	Sourabaya, ...	Soo-rah-lŏ'-a.	Temiscaming, ...	Te-mis'-kam-ing.
Servia, ...	Ser'-ve-a.	Spartivento, ...	Spar-te-vŏn'-to.	Temiscouata, ...	Tem-is-ko-ah'-tah.
Setbal, ...	Sŏ-toŏ'-hal.	Spey, ...	Spi.	Tempe, ...	Tŏm'-pŏ.
Severn, ...	Sŏv'-ern.	Spire, ...	Spiro.	Tenariffe, ...	Tŏn-er-iff'.
Severo, ...	Sŏ-vŏ'-ro.	Spitsbergen, ...	Spits-burg'-en.	Tengrinor, ...	Ten'-gre-nor.
Seville, ...	Sŏv'-il (-ill').	Sporades, ...	Spŏr'-a-deez.	Tennessee, ...	Tŏn-nŏe-sŏŏ'.
Sevres, ...	Sŏv'r.	Spree, ...	Sprá.	Terra del Fuego, ...	Ter'-rah-del-fwŏ'-go.
Seychelles, ...	Sŏ-ah-sŏl'.	Stafford, ...	Stáf'-ford.	Terrobonne, ...	Tair-hŏn'.
Shamo, ...	Shah'-mo.	Stallmene, ...	Stal-e-mŏ'-ne.	Terre Haute, ...	Tŏir-hŏt'.
Shanghai, ...	Shang-hŏ'.	Stalimni, ...	Stal-e-mŏ'-ne.	Tetuan, ...	Tŏt-u-an'.
Shannon, ...	Shán'-nŏn.	Stancovo, ...	Stah-na-vo'.	Thames, ...	Tŏmz.
Shat-el-Arab, ...	Shat-el-ah'-rabb.	Stelvio, ...	Stŏl'-ve-ŏ.	Thanet, ...	Thán'-et.
Shediac, ...	Shŏd-e-ak'.	Stettin, ...	Stŏt-teen.	Thaso, ...	Thah'-so.
Sheerness, ...	Shŏer-ness'.	Stettiner Haf, ...	Stŏt-tŏŏ'-ner-haff.	Thebes, ...	Thŏbs.
Sheffield, ...	Shŏf'-fiel'd.	Stockholm, ...	Sŏk'-holm.	Theiss, ...	Tŏce.
Shenandoah, ...	She-rán-dŏ'-ah.	Stour, ...	Stoor.	Thermopylae, ...	Ther-mŏp'-le.
Shendy, ...	Shŏn'-de.	Strabane, ...	Strá-bán'.	Thiakl, ...	The-ah'-ke.
Shepody, ...	Shŏp'-ŏ-de.	Stralsund, ...	Strahl'-soont.	Thian Shan, ...	Te-ahn'-shahn.
		Strangford, ...	Srang'-ford.	Tibet, ...	Tib'-et (-et').

Thorn,	Torn.	Tuscaloosa,	Tŭs-kah-loo'-ah.	Washita,	W'osh-3-taw'.
Thorold,	Thor'-oh.	Tuscany,	Tŭs'-ka-ne.	Waterloo,	Wa-ter-loo'.
Thuringian,	Thu-ri'n'-je-an.	Tyne,	Tine.	Wellesley,	Wels'-le.
Thurles,	Thŭr-ls.	Tyrene,	Ti-rŕne'.	Wener,	Wŕ-ner (Vŕ-ner).
Tibet,	Tŭ-bur.			Weiser,	Wŕ-ser (Vŕ-ser).
Ticino,	Tŕ-ehŕe'-no (-sŕe').	Uist,	Wist.	Westmoreland,	Wes't-mŕre-land.
Tiflis,	Tŭf-lis.	Ullewater,	Uls'-wa-ter.	Wetter,	Wŕt-ter (Vŕt-ter).
Tigrŕ,	Tŕŕ-grŕ.	Ulm,	Ūlm (Oolm).	Weymouth,	Wŕ-mŭth.
Tigris,	Tŭ-gris.	Ulster,	Uŭ'-stor.	Whydah,	Whŭd'-da.
Timbuctoo,	Tim-bŭk'-too.	Unst,	Ūnst.	Whykocomagh,	Whŭ-kok'-o-mah.
Timor,	Te-mŕre' (Tŭ-mor).	Upsala,	Ūp-sah'-lah.	Widden,	Wŭd'-den.
Timor Laut,	Te-mŕre'-laut.	Ural,	Ū-ral (Oo-rah'l).	Wiesbaden,	Wŕes'-bah-den.
Tipperary,	Tŭp-er-ŕ-re.	Uruguay,	Oo-roo-gwŕ' (-gwŕ').	Wigan,	Wŭg'-an.
Titicaca,	Tee-tee-kah'-kah.	Ushant,	Ūsh'-ant.	Wight,	Wŭte.
Tobago,	To-bŕ-go.	Utah,	Ū'-tah.	Winchester,	Wŭn'-ches-ter.
Tobique,	To-bŕek'.	Utica,	Ū'-te-ka.	Windsor,	Wŭn'-der-mŕre.
Tobol,	To-bŕl'.	Utrecht,	Ū'-trŕkt.	Windsor,	Wŭn'-ŕŕr.
Tobolsk,	To-bolsk'.			Winnipeg,	Wŭn'-ni-pŕg.
Tocantins,	To-kan-tŕŕns'.			Winnipegoc,	Wŭn-e-pe-saw'-ke.
Tokay,	To-ka'.	Valdai,	Val'-dŕ (-df).		Wŭn-e-pŕs-e-ŕ-ge.
Toledo,	To-lŕ-do.	Valencia,	Vah-lŕn'-she-n.	Wisconsin,	Wŭs-kŕn'-ŕn.
Tongataboo,	Tong-ah-tah'-boo.	Valenciennes,	Vah-long-se-ŕn'.	Wittenburg,	Wŭt'-tŕn-burg.
Tonquin,	Tŭn-kŕn'.	Valladolid,	Val-lŕ-do-lŕd' (-lŕŕd').	Wollaston,	Wŕl'-las-ton.
Tŕpeka,	To-pŕ-kah.	Valparaiso,	Vŕl-pah-rŕ-so.	Wolverhampton,	Wŕl-ver-hamp'-tou.
Toplitz,	Tŕp-litz.	Vancouver,	Van-kŕo'-ver.	Woolwich,	Wŕol'-tŕch.
Torbay,	Tor-bŕ' (Tor').	Van Diemen's,	Van-dŕŕ-men-z.	Worcester,	Wŕos'-ter.
Tormentine,	Tor-men-tŕne.	Varna,	Var'-nah.	Wrexham,	Rŕx'-ŕm.
Tornes,	Tor-ne-ah.	Vaudrouil,	Vo-drool'.	Wurtemberg,	Wŭr-tem-burg.
Torquay,	Tor-kŕ' (Tor').	Venezuela,	Vŕn-e-awŕ'-lah.	Wye,	Wŭ.
Torres,	Tor-res.	Venice,	Vŕn'-iss.		
Tortola,	Tor-to-lah (-tŕ').	Vera Cruz,	Ve-rah-crooz'.	Xeres,	Hŕ-rŕs'.
Tortugas,	Tor-too'-gas.	Verde,	Verd.	Xingu,	Shŭn-gŕo'
Toulon,	Tŕo-lŕng.	Vermejo,	Ver-mŕ'-ho.	Xucar (Jucar),	Hŕo'-kar.
Toulonse,	Tŕo-loos'.	Vermont,	Ver-mont'.		
Tourment,	Toor-mont'.	Verona,	Ve-rŕ-nah.	Yablouoi,	Yah-blo-noŕ.
Tournay,	Toor-nŕ'.	Versailles,	Ver-sŕlz'.	Yamaska,	Yŕh-mŕs'-kah.
Tours,	Toor (Toorz).	Verte,	Vŕrt.	Yanson,	Yah-nŕn-ŕng'.
Tracadie,	Trŕk'-a-de.	Verriers,	Ver-ve-ŕ'.	Yang-tee-kiang,	Yang-tee-ke-ang'.
Trafalgar,	Traf-al-gar' (-fal').	Vesuvius,	Ve-sŭ'-ve-us.	Yapura (Japura),	Yah-poo'-rah.
Tralee,	Trah-lee'.	Vicenza,	Ve-sŕn'-za.	Yarkand,	Yŕr-kand'.
Transvaal,	Trans-vah'l'.	Vienna,	Vŕ-sŕ-nah.	Yarra-Yarra,	Yŕr'-rah-yŕr'-rah.
Trapani,	Trah'-pah-ne.	Vilna,	Vŭl'-nah.	Yavary (Jabary),	Yŕh-vah-rŕŕ'.
Travancore,	Trŕv-an-kŕre'.	Vindhya,	Vŭnd'-yah.	Yeddo (Jeddo),	Yed'-do.
Trebisond,	Treb'-e-zond (-zond').	Virginia,	Vir-ŕŕo'-e-ah.	Yemen,	Yŕm'-en.
Treves,	Trŕŕva.	Viso (Monte),	Mon-tŕ-vŕŕ-zo.	Yenisei,	Yŕn-e-sŕ'-e.
Trichinopoly,	Tritch-in-ŕp'-o-le.	Vistula,	Vŭt'-tu-lŕ.	Yesso,	Yŕs'-so.
Trieste,	Tre-ŕst'.	Volga,	Vŕl'-gah.	Yoruba,	Yo-roo'-bah.
Trincomalee,	Tring-ko-ma-lŕŕ'.	Volturno,	Vŕl-toor'-no (-tur').	Yosemite,	Yo-sŕm'-e-tŕ.
Tripoli,	Tŕŭp'-o-le.	Vosges,	Vŕsh.	Yonghall,	Yŕwŭ (Yŕ-awŭ).
Tripolizza,	Tre-po-lit'-za.			Yucatan,	Yoo-kah-tŕn'.
Trois Pistoles,	Trŕwŕ-pis-tŕle'.	Waag,	Wahg.	Yukon,	Yŭ'-kon.
Trombetas,	Trŕm-bŕ'-tas.	Wadai,	Wah'-di.	Zacatecas,	Zŕc-n-tŕ'-kas (-tŕ').
Trowbridge,	Trŕ-ŕ-bridge.	Wady Mousa,	Wah'-de-moo'-sah.	Zaire,	Zŕh-ŕŕr'.
Truxillo,	Troo-bŕŕl'-yo.	Wahsatch,	Wah-satch'.	Zambese,	Zŕm-beez' (-bŕ'-zŕ).
Tuam,	Tŭ'-am.	Waldeck,	Wŕl'-dek.	Zanguebar,	Zŕn-gwe-bar' (-gŕ).
Tula,	Too'-lah.	Wallachia,	Wŕl-lŕ'-ke-a.	Zante,	Zŕn'-te.
Tullamore,	Tŭl-la-mŕre'.	Walney,	Wŕl'-ne.	Zanzibar,	Zŕn-ze-bar'.
Tunis,	Too'-nis.	Walsall,	Wŕl'-sal.	Zeland,	Zŕŕ'-land.
Turin,	Too'-rin.	Warsaw,	War'-saw.	Zurich,	Zŕo'-rik.
Turkestan,	Toor-kes-tŕn'.	Wartha,	War'-tha.	Ryder Zee,	Zŕ-der-zee.
Turkey,	Tur'-ke.	Warwick,	War'-rik.		

taw'.
loo'.

(Vā'-ner).
(Vā'-ner).
Ore-land.
(Yē'-ter).
h.
a.
k'o-mah.
h.
ah-den.

e-ter.
-māre.

pēg.
-saw'ke.
-e-ō'-ge.
-sin.
-burg.
-ton.
hamp'-ton.
h.
r.
-burg.

noī'.
-kah.
ong'.
ke-ang'.
-rah.
'
yar'-rah.
rēō'.

o.
h.
-te.
-awl).
an'.

kas (-tā-).
' (-bā'-zā).
ar' (-gā-).

r'.

