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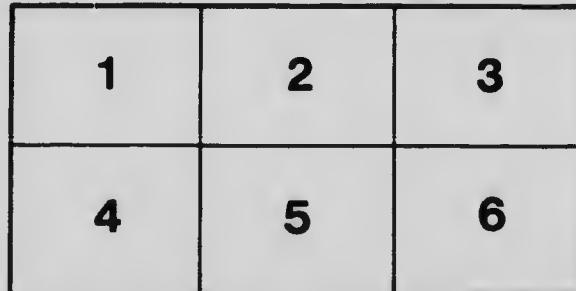
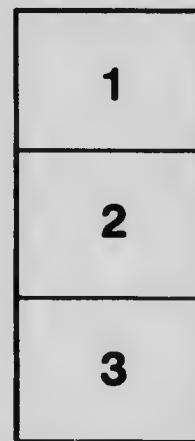
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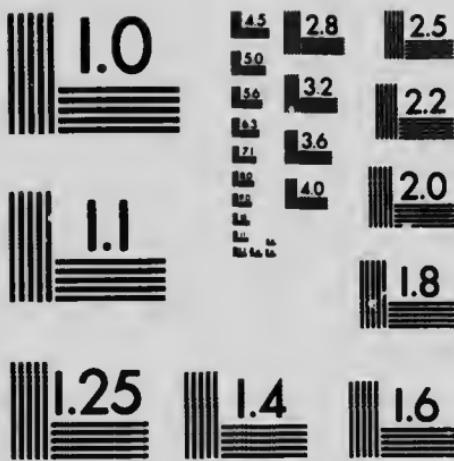
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THE ROYAL ONTARIO MUSEUM

The Royal Ontario Museum was established in the year 1912 under an Act of the Legislative Assembly of the Province of Ontario for the purpose of collecting and exhibiting objects in illustration of the Natural History of the World and the History of Man in all Ages.

The Museum is governed by a Board of Trustees nominated by the Lieutenant-Governor-in-Council of the Province of Ontario and by the Board of Governors of the University of Toronto. The cost of the erection of the building was borne in equal parts by the Province of Ontario and the University of Toronto: the annual charges for maintenance are similarly divided.

Many of the exhibits originally formed part of the University collections and were transferred to the Museum at the time of its establishment. Much of this material, as well as many more recent additions, has been acquired through the generosity of private individuals and friends of the Museum. The Board of Trustees desires that the public regard the Museum as a repository for individual specimens and collections. The preservation of such material is one of the chief functions of a museum and it is largely to this source that the Royal Ontario Museum looks for its future expansion.

The Act establishing the Museum confers on the Board of Trustees the authority to establish independent museums devoted to especial objects, to be known as "The Royal Ontario Museum of ____". In accordance with these powers the Board has created to date the following Museums:

- The Royal Ontario Museum of Archaeology.
- The Royal Ontario Museum of Geology.
- The Royal Ontario Museum of Mineralogy.
- The Royal Ontario Museum of Palaeontology.
- The Royal Ontario Museum of Zoology.

The present museum building constitutes the west wing of the proposed structure, which when completed will be in the form of a quadrangle and will occupy the ground between the part now constructed and Avenue Road. Exclusive of the offices the present building is 340 feet by 60 feet, with an easterly projection 60 feet by 40 feet, giving with its four floors, a total area of 91,200 square feet. The whole of this area is available for exhibition with the exception of about two-thirds of the basement which is used for storage and for preparation rooms.

THE ROYAL ONTARIO MUSEUM OF ARCHAEOLOGY

The object of the Royal Ontario Museum of Archaeology is to provide for the people of Canada, an opportunity to study the development of the handicraft of man.

Man has risen, step by step, in civilisation, through a desire for new aids to his safety, his comfort or perhaps his pleasure, and an endeavour to obtain them. For a great period, the advance was very slow, as each hunter had to be able to be entirely independent of his neighbours and able to do everything with his own hands. At this stage of civilisation there could be no specialisation of work, and a man is more lenient to himself for bad workmanship than he is to another whom he is paying to carry out his ideas. Each individual craft has come up through slow stages, as difficulty after difficulty has been surmounted; and the forms and designs of things usually carry with them the story of their development. It is to be hoped that the study of this evolution of the crafts, will be as beneficial to the people of Canada, as it has been to those of other countries, where the study has been made possible.

The first room in the Royal Ontario Museum of Archaeology is situated at the head of the main staircase to the first floor. It contains the history of primitive man, from his first stone tools and weapons of the Palaeolithic period, through the Neolithic, or later stone age, into the early age of metals. This collection is particularly rich in objects of the Palaeolithic period, and shows practically all the periods known, and also has remarkable examples from each of the great prehistoric centres. Special note should be made of the wonderful Egyptian knives.

To the north of this gallery come three rooms, that show the development of the two great centres of agricultural civilisation: Babylon and Egypt. The Babylonian collection

contains a good many hundreds of tablets, for the most part accounts, and a considerable number of cylinder seals. Two special objects are the drum-like tablet of Nebuchadnezzar and one of the great bricks of Babylon stamped with the name and titles of Nebuchadnezzar.

Near these are a number of cases of vessels in clay made before the introduction of the potter's wheel and numerous vases and tables of offering in alabaster and other hard stones, a fair collection of the gods of Egypt in bronze, an interesting case of textiles and baskets, two cases of furniture, two of models and a certain amount of sculpture. In the next room are shown Egyptian bead-work and amulets, early paintings on linen, tools and models and a great number of small objects; the centre of the room is occupied by a large collection of jewels dating from before 5000 B.C. down to Roman times. As special objects of interest may be cited a semi-ready tomb-stone, with very elaborate carving, and a large, rough piece of stone with sample letters for the use of those who did not trust their own abilities.

The long wall is occupied by a cast of the great expedition to Punt that was undertaken by Queen Hatshepsut. The first scene shows the arrival and landing at Punt, the broken wall to the left of this shows the Land of Punt, and above the arrival scene is shown the loading and departure of the ships. The right half of the wall depicts the offering to Amon by the Queen and Thothmes III of all the objects brought back by the Expedition. Next to this comes a small gallery of mummies.

South of the Mummy Gallery comes the Classical Collection, showing the development of the beautiful Greek vases, a certain amount of classical armour, terra-cotta statuettes and a good series of the development of Italian vases with very beautiful examples of the black *Bucchero* ware of the Etruscans. The most important object of the gallery, however, is a large statue of Venus which is of great beauty.

This leads to a long gallery which contains the objects used by the common people of the great Graeco-Roman period. It shows quite a large collection of children's toys, reading and writing materials, costumes, women's things, men's tools

and weapons, religious objects such as small household gods, and a certain number of objects, especially from Palestine, that show the continuation of ancient forms down into the XIX century.

A study of this room will give exceptional opportunities for the realisation and visualisation of the times of Christ and the early church.

The next room goes back to the time, as far as development is concerned, of the first room, and picks up those peoples who have been left behind. And one sees in the stone and wooden implements of the Eskimo and the South Sea Islanders, the same conditions that existed in England, North Africa or Asia Minor, in the early days of man's history. There is also a very good collection of Central and Southern African objects made by people in a primitive condition of life but with a full knowledge of the metals.

Parallel with this, as the visitor turns at the south end of the gallery, is seen the American Indian Collection. The pictures are of great importance, and though small, the collection of bead work and quill work from the West, and the pottery, pipes and shell work, and the other small objects from village sites and groves of the East, give a clear idea of the mechanical skill possessed by the ancient inhabitants of Canada. Gradually groups of life-sized models are being added to illustrate the work and costume of different types of the American Indian. There are several cases of southwestern vases which are of the greatest importance in the teaching of design; many of them are of exquisite beauty. The Mexican collection shows wonderful examples of the sculpture and pottery of the Zapotecan culture; there is also an example of ancient Mexican writing of the very greatest interest and importance. The Peruvian potteries and cotton weavings will also repay careful study.

On descending the main stairway to the ground floor, one finds oneself in the main gallery. Here are displayed a collection of decorative iron work of the XVII and XVIII centuries in Europe; wonderful embroideries and weavings from the Imperial Palace of China; Chinese bronzes and enamel work; rugs and tapestries; a large collection of musical instruments;

some exquisite wood carvings; a collection of arms and armour, that is particularly fortunate in its hafted weapons; and some fine chests and other pieces of furniture.

To the south of this comes the Chinese gallery, where we are able to show the development from the simple, primitive works in clay of the early period, right on through the periods of greatness into that of decline about one hundred years ago. Of special interest are the wonderful VII century horses and particularly those in the tomb group that was taken from the tomb of Commander Sui Cheng who died A.D. 692. Here also are shown glass, jade and bronzes and a few paintings.

At the end of this gallery, is the great Chinese seated figure, a Lohan of the VII century and one of the great works of art of the world.

The end gallery is Japanese, and contains many fine examples of the ceramic art, the art of the metal worker, the wood carver, the painter and the maker of colour prints.

Coming along the west side of the Museum we enter the furniture gallery, where a rapidly increasing collection of wood work is shown, the most striking example being a furnished room of the late Tudor period.

Crossing the main gallery again, we enter the lace and embroidery room, where we have some extremely fine embroideries, mainly from the Eastern Mediterranean, and two wonderful pieces from a Pre-Inca tomb in Peru. The south wall contains remarkable weavings from the days of the Roman Empire, that were found in Egypt. The lace collection shows the evolution of the art, from the early geometric laces on drawn linen into the flowing guipures of Italy, then the spread to France, Belgium, Holland and England, the introduction of the pillow-made laces and the rapid decline and cheapening of the art, that came with the machine-made net.

Parallel with this room is the glazed earthenware gallery, where we show the history of glazed earthenware and of glass, from the early Egyptian period, through the Graeco-Roman period to Persia, from Persia across North Africa to Spain, then to Italy and Northern Europe, while for a parallel period, we have the wonderful Rhodian, Damascus and Persian wares of the Nearer East. The making of glass

breaks away from that of glaze, about 1500 B.C., and most of the steps are shown from the wound to the blown glass, then the great artistic development of the Italian Renaissance, and the clear, well-made glass of England in the XVIII century.

Special attention should be paid to the great Della Robbia figure. In this room, for the time being, the velvets are shown, and over the walls generally of this floor, is hung a collection of carpets, made to show the distribution of the carpet industry, as well as to show, where possible, exceptionally fine examples.

EXHIBIT OF IMPERIAL MUNITIONS BOARD.

On the ground floor near the main entrance, through the kindness of the Imperial Munitions Board, has been installed an interesting exhibit illustrating the part Canadian manufacturers have played in the production of munitions for the great war: the manufacture of the various types of shells and projectiles is shown from the first crude forgings to the completed article.

On the lower shelf of the central stand is shown a series illustrating the principal steps in the conversion of the crude billet to the completed and loaded 18 pr. shrapnel shell, and also the 18 pr. high explosive, the second shelf illustrates the manufacture of the 3 pr. armour-piercing shell. The top shelf exhibits three completed shells of different types and the development of the 18 pr. and 3 in. anti-aircraft cartridge cases. The west side of this stand illustrates defects in steel which cause the rejection of shells, and the east side shows the development of the copper band. The rear shows models of the ships built under the direction of the Board and also the wooden parts of aeroplanes.

The stand to the west of the entrance illustrates the various types of shells manufactured in Canada, including the 4.5, 4.7, 6.8, 9.2 in. shells; also the 60 pr. high explosive, the 155 mm., the 240 mm. and the 3 in. anti-aircraft shells. The west side of this stand shows the development of methyl-ethyl-ketone used in making cordite.

The two smaller cases show the gauges used in the manufacture of time and percussion fuses.

THE ROYAL ONTARIO MUSEUM OF GEOLOGY

The Royal Ontario Museum of Geology occupies a gallery 200 feet by 30 feet, on the west side of the lower floor of the Museum building.

The exhibits are arranged in alcoves to each of which is assigned some aspect of geology. The arrangement is essentially economic as most of the alcoves contain specimens illustrating the geological occurrence of substances useful to man, e.g., gold, abrasive materials, fuels, etc. The northern alcove, however, is devoted to structural and glacial geology. It is intended to more fully illustrate this phase of the subject in wall cases to be installed along the west wall of the gallery. The accompanying plan indicates the general disposition of the exhibits.

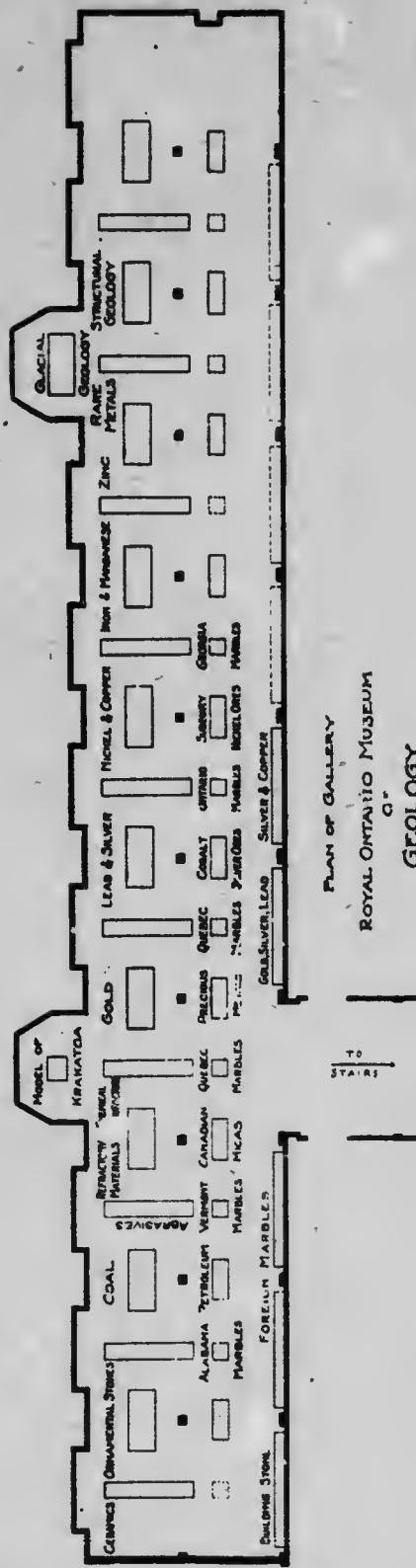
Visitors to this gallery are to understand that the mineral specimens herein shown are present, not as examples of the *mineral* in question, but as the *ores* of some metal useful to man: much finer and better crystallized examples of these minerals are to be seen in the Mineralogical Museum on the top floor. Metallurgical products are shown in connection with some of the metals but it is not the intention to extensively develop this aspect of the subject.

The southern alcove is devoted to ceramics and contains specimens of most of the Canadian commercial clays, and briquettes manufactured from them.

The second alcove contains specimens of various ornamental stones. Particular attention is directed to the beautiful blue mineral, sodalite, the collection of Queensland gem stones and the series illustrating the South African diamond fields in the table case.

The third alcove shows large samples of most of the Canadian coals and a special exhibit of petroleum products.

Specimens illustrating natural abrasives and refractories follow. In this connection the corundum from Ontario and



the asbestos from Quebec are worthy of special examination.

The ores of the metals occupy the next five alcoves. Of these the most important are the Nickel-copper ores from Sudbury, the Cobalt-silver ores from Cobalt, and the series of silver ores from Port Arthur, Ontario, and from Australia, shown in the table case in the Silver-lead alcove.

The northern end of the gallery contains specimens illustrating dynamic and structural geology and the mode of occurrence of metallic ores.

The suite of specimens illustrating glacial periods, contained in the case in the northern bay window, is probably the most complete in any museum, including examples of four different ages. The oldest specimens, from Cobalt, prove that ice sheets covered northern Ontario many millions of years ago.

The table case in the adjoining alcove contains a set of interglacial fossils from the Don valley, Toronto, proving that the region was warmer between the last two ice ages than at present. It supplies an important chapter in the ancient history of this part of Ontario.

Beginning at the south end the wall cases are devoted to:

First—A series of Canadian commercial building stones.

Second—Polished slabs of commercial granites.

Third—A large collection of polished slabs of domestic and foreign marbles.

Fourth—Gold and silver ores.

Fifth—Ores of silver from Cobalt and a unique collection of specimens illustrating the native copper ores of Michigan, the sulphide ores of Butte, Montana, and the oxidized copper ores of Arizona.

The series of pedestals standing between the alcoves exhibit each five types of well known Canadian and American marbles.

Material of a character suitable for exhibition in a gallery of this kind can scarcely be obtained by purchase: the Director would be grateful for the donation of large specimens illustrating economic and structural geology or for having his attention directed to the possibility of obtaining such specimens.

THE ROYAL ONTARIO MUSEUM OF MINERALOGY

The material contained in the Museum of Mineralogy represents the collections assembled during the last twenty years. Prior to 1912 the collections were cared for by the University of Toronto and were housed in the Museum gallery in the Mining building on College Street. The nucleus about which the present very extensive collections grew was purchased from Mr. W. F. Ferrier of Ottawa, in 1894. Since then the collections have been extended by purchase, by collections made by the members of the University and Museum staffs, by exchange with other institutions and very largely by donations from mining men, particularly from graduates of the University engaged in mining in Canada and the United States.

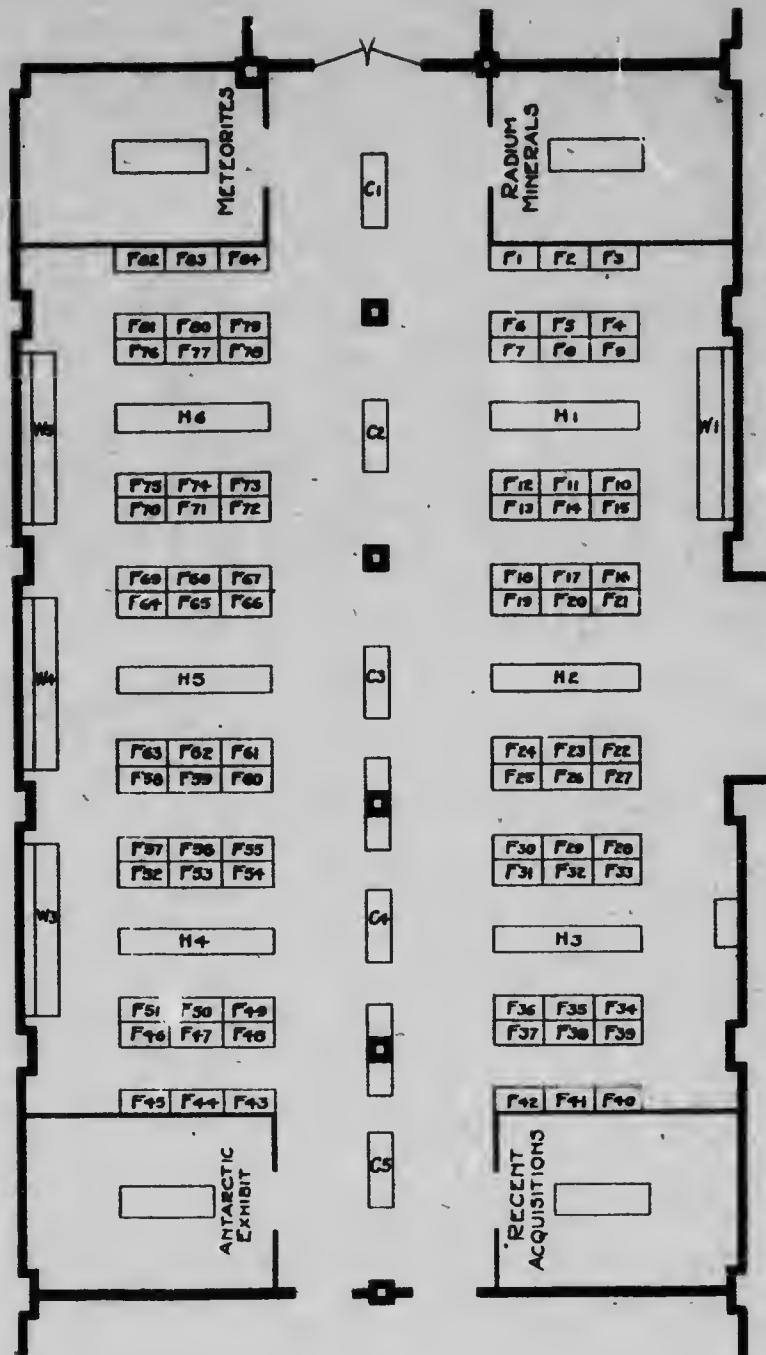
The collections may be conveniently referred to under the following subdivisions:

I. SYSTEMATIC COLLECTION OF MINERALS. In the table cases (F1 to F64) are found specimens of all the different kinds of minerals contained in the Museum. This is one of the most complete systematic collections on the continent and in it are found specimens of all but the very rarest types. The method of classification is that adopted by Dana who arranges minerals in eight groups as follows: (1) Native elements, (2) Sulphides, (3) Sulpho-Salts, (4) Haloids, (5) Oxides, (6) Oxygen-Salts, (7) Salts of Organic Acids and (8) Hydrocarbons. The minerals are arranged in this order beginning with Native elements in case F1 and ending with hydrocarbons in case F64. The minerals bear the same serial numbers which were assigned to them by Dana in his System of Mineralogy—thus graphite is No. 2, quartz No. 210, and gypsum No. 746.

II. SYSTEMATIC COLLECTION OF ROCKS. The rocks are contained in the table cases F65 to F84 inclusive. They are

ROYAL ONTARIO MUSEUM
or
MINERALOGY

PLAN of MINERAL GALLERY



arranged so that igneous rocks which begin in F65 are followed by sedimentary rocks and these in turn by metamorphic rocks which extend to F84. In these cases printed explanatory statements have been introduced so as to make the series of educational value.

III. HIGH CASES FOR LARGE SPECIMENS. These cases bear the numbers H1 to H6 and in them are placed large specimens of the types of minerals and rocks contained in the adjacent table cases. Each specimen in these cases bears an explanatory printed label which makes this series useful to students and other visitors without the necessity of their providing themselves with text-books on the subject.

IV. CENTRAL SERIES OF BRONZE CASES. These cases are numbered C1 to C5 and in them are placed specimens illustrating (1) the colours of minerals, (2) minerals used as ores, (3) non-metallic useful minerals, (4) copper carbonates presented by D. James Douglas and (5) crystals.

Between C1 and C3 are placed four small table cases containing collections which can easily be changed from time to time to accommodate objects which require temporary display. In one of these small cases is found a series of most beautiful specimens from Madoc, Ontario, presented by Fred. Miller, Esq., of Toronto.

V. CANADIAN MINERALS, WALL CASES W3 to W5. This series of cases has been arranged to meet the requirements of visitors interested in Canadian minerals. From this series all foreign specimens have been excluded. It is hoped that in time the chief Canadian localities may be represented by first class specimens.

VI. TEACHING COLLECTION, WALL CASE W1. This case is situated on the west wall and in it are placed such specimens as are required to illustrate the terminology of the science of mineralogy. It contains crystals and crystal models, a series of specimens to shew structures, physical properties and the classification of minerals adopted in the mineral galleries. On the west wall is also found a small case containing the minerals mentioned in the Bible as well as the minerals and artificial products used in wireless telegraphy.

VII. THE SCREENED CORNER ROOMS. These rooms contain collections not systematically related to the collections previously described. In each of the four rooms special exhibits can be arranged. At present these rooms contain (1) meteorites, (2) radium minerals, (3) antarctic exhibit, and (4) recent acquisitions.

The Director extends an invitation to all interested in the study of minerals and rocks, to co-operate in the extension of the Museum. Donations of material suitable for exhibition purposes are at all times welcome and will be suitably acknowledged.

THE ROYAL ONTARIO MUSEUM OF PALAEONTOLOGY

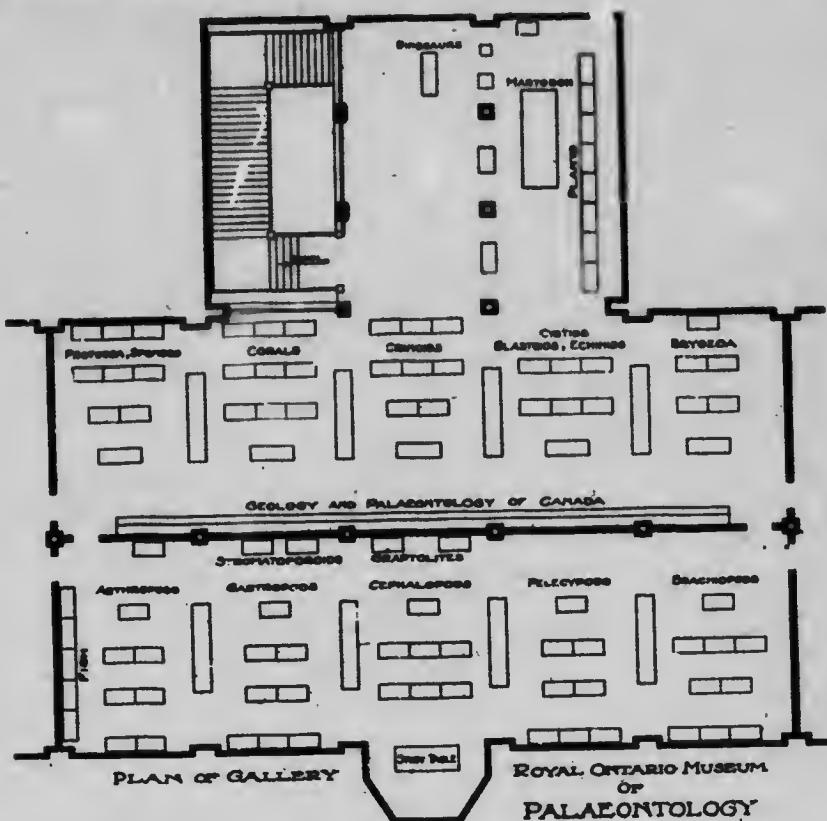
The Royal Ontario Museum of Palaeontology occupies the central third of the upper floor and is also provided with commodious storage and preparation rooms in the basement. The nucleus around which the Museum has grown to its present dimensions is the large collection presented to the University of Toronto by Sir Edmund Walker about fifteen years ago. By donation, collecting, and purchase the original collections have been extended until, at the present time, the exhibition cases are capable of containing only about two-thirds of the species in the possession of the Museum.

The general arrangement of the specimens is on the alcove system—each alcove being devoted to a branch of invertebrate animals as shown on the accompanying plan. The flat cases contain a systematic series arranged geologically: the individual case in the front of each alcove contains specimens illustrating the morphology and classification of the branch; the high cases separating the alcoves contain specimens of larger size, and series illustrating especial features.

Particular attention has been given to the preparation of descriptive labels for the larger and more important specimens. These labels are primarily intended for guidance of students, but, as far as possible, they are written without the use of technical terms in order that they may be of service to the general public.

The systematic arrangement is designed mainly for the display of invertebrate fossils. A tour of the galleries should begin at the north alcove of the east gallery, proceed south through this gallery, and then north through the west gallery. In this way the fossils will be seen in the order of their zoological rank.

In the first alcove, devoted to Protozoa and Sponges, should be noted the large collection of American sponges of Silurian age. The second alcove contains corals: some very large and fine specimens of Devonian corals from Ontario are to be seen in the high cases. The third alcove exhibits a very fine collection of fossil sea lilies, including many presented by Sir Edmund Walker and Mr. Frank Springer.



The fourth alcove shows some examples of the extinct Palaeozoic groups of cystids and blastoids, some interesting star fish from Ontario, and a good series of Mesozoic and Tertiary sea urchins. The last alcove in this gallery is devoted to the Bryozoa, a very important group of fossils but not presenting any features easily seen on a large scale. The high case in this section contains temporarily a fine collection of Tertiary mammals presented by the American Museum of Natural History.

The south alcove in the west gallery illustrates the great group of the brachiopods so important in the Palaeozoic era. The structural case in the front of the alcove contains a good series of prepared specimens illustrating the anatomy of the brachiopod shell.

The molluscs occupy the next three alcoves—pelecypods or clams, cephalopods in two main groups, the nautiloids of the Palaeozoic and the ammonites of the Mesozoic, and the gastropods.

The last alcove contains the arthropods or invertebrate animals with jointed legs, including the trilobites, merostomes, insects, etc. A small collection of fossil fish is shown along the north wall of this alcove.

The continuous series of cases along the west wall of the east gallery contains specimens to illustrate in a limited way the geology and palaeontology of Canada. From left to right the greater Canadian formations are shown in ascending order from the ancient crystalline Pre-Cambrian to the Post-Glacial.

Of the larger air-breathing creatures two interesting types of water reptiles are mounted on the south wall of the west gallery. A collection of typical bones of dinosaurs from Alberta is shown in the case at the head of the stairs. Here also is part of the skeleton of the huge elephant-like creature, the mastodon. The related animal, the mammoth, is represented by tusks; extinct buffaloes and musk oxen by a few crania; and the great extinct deer, known commonly as the Irish deer, by the cranium and antlers.

THE ROYAL ONTARIO MUSEUM OF ZOOLOGY

The Royal Ontario Museum of Zoology occupies the north portion of the upper floor. The majority of the specimens exhibited here have been selected to form a Canadian collection; there are extensive general collections in the possession of the Museum and the University, but on account of the present limitations of space, only a few foreign groups have been placed on exhibition in the Museum of Zoology. Many foreign specimens of an interesting nature are, however, on exhibition in the University Biological Museum, the collections of which also provided the nucleus of the present Canadian series of the Museum of Zoology upon the establishment of the latter in 1913. The more recent acquisitions are very numerous, but include certain outstanding collections such as the fur-bearing animals of Algonquin Park, presented by the Provincial Government, various native and foreign species from the Riverdale Zoological Gardens, and the Tregarthen collection of antelope horns from Africa.

For the convenience of visitors the principal or free-standing cases are numbered consecutively from I to XII, and the wall-cases are lettered from A onwards, depending somewhat on the addition of new cases from year to year. Both series begin at the stairway and pass around the gallery. The remaining floor-cases and table cases are not specially designated, though attention may be directed to the two series of sloping or A-cases in which will be found the principal parts of the collection of insects.

Cases I to IV together with the wall-case B contain a representative collection of Canadian mammals, among them an unusually fine puma from Vancouver Island, specimens of the Canadian beaver and its work, and the young and adult of seals and deer. In the adjacent floor-cases, and others occupying the centre of the gallery will be found habitat mounts of the northern wolf and of the mink, specimens of

Alaska fur-seal, hooded seal, an almost white moose, Rocky Mountain sheep and goat, and the musk-ox of the Barren Lands of Arctic America. Case A contains a small selection of skeletal preparations illustrating some of the features upon which the classification of mammals is based. On the east wall will be seen a representative series of Canadian deer and bison heads, and in a similar position toward the south end of the gallery the Boddy and Tregarthen collections of antelope skulls and horns.

Cases V to VIII together with the wall-cases D to G contain a classified series of Canadian birds, beginning with the various orders of waterfowl (V, VI, D), and continuing through the shore-birds and herons (E), passerine birds (F), wood-peckers, goat suckers, and cuckoos (VII), birds of prey (VII, VIII, G), grouse, quails, pheasants and doves (VIII). Several individual specimens and groups of Canadian birds will be found in detached smaller cases around the walls, among them a series of some forty birds of the Toronto region, useful for school study. Six table-cases, containing examples and in many cases natural sets of birds' eggs have been arranged as nearly as possible in association with the specimens of birds in the adjoining cases.

Case C in the bird series has been specially arranged to exhibit the natural history of the pheasants. With the exception of the wild turkey and its domesticated form as shown in Case VIII, all these birds are of old world derivation, but the group has a particular interest on account of the domestication of the various species in almost all civilized countries.

Cases H, J, K, and L contain temporary exhibits of foreign birds including parrots, humming birds, and birds of paradise. The brilliant and metallic colourations of the two former groups of South American birds respectively, and the structural modifications of plumage shown by the birds of paradise of New Guinea are in striking contrast to the less showy dress of most of the northern groups.

Case IX contains a small collection of specimens of Canadian lower vertebrates, including reptiles, amphibians, and fishes, while in Case X and the adjacent wall-case (I) will be found the beginning of a series of coloured casts of Canadian

fishes which when completed will be one of the outstanding features of the gallery. On the wall are a few examples of marine fishes including a large sailfish, and nearby specimens of the shell and head of the green sea turtle.

Cases XI and XII are devoted to some of the lower groups of the invertebrates. The adjacent table-cases in this portion of the gallery contain special series of invertebrates, including molluscan shells of the Pacific Coast, specimens portraying the natural history of the oyster and shells of the Atlantic Coast, a series illustrating variety in form and colouration of molluscan shells, a series of Canadian land and fresh water shells, and a collection of Atlantic and Pacific echinoderms.

Case M is reserved for new material, the contents being changed from time to time as others are received.

The insect collections of the Museum are unusually extensive and are under arrangement. The series of sloping cases mentioned above are designed to contain a classified collection of Canadian insects arranged in such a way as to facilitate the identification of at least all common forms. There will also be groups illustrating the life histories and the principles of protective form and colouration, much of this material being now in place. Case N contains a temporary exhibit of insects but is designed to contain an economic collection illustrating the commoner injurious species and examples of their work.

In addition to the specimens for public exhibition there are extensive collections of zoological material, available for private study on application. The Museum invites the co-operation of private collectors and of the public with the view of increasing the extent and utility of its collections.

DAY'S AND HOURS OF ADMISSION

The museum is open to the public from 10 to 5 o'clock on all week-days except Christmas Day and the forenoon of New Year's Day. Admission free on Tuesdays, Thursdays and Saturdays, and on all public holidays. On other days the admission fee is Fifteen cents.

