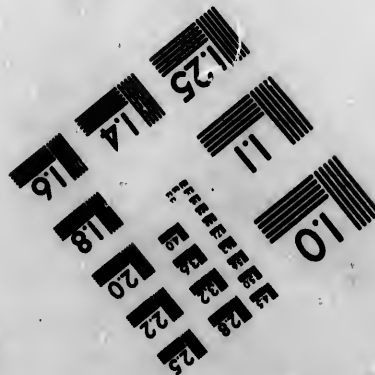
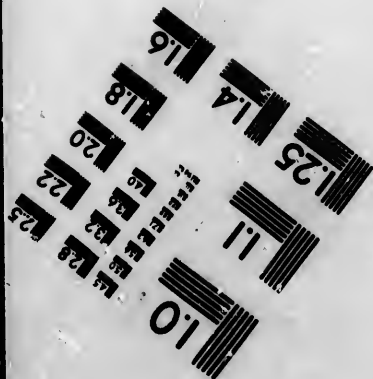
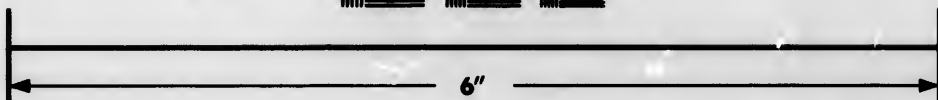
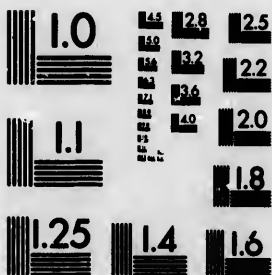


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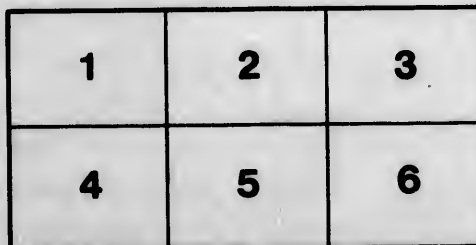
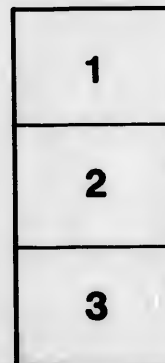
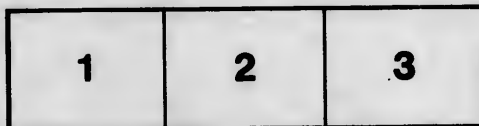
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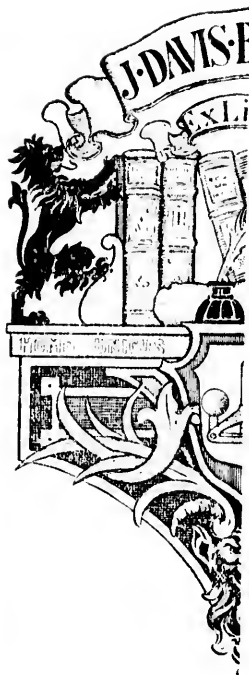
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OLD-WORLD QUESTIONS

AND

NEW-WORLD ANSWERS

BY

DANIEL PIDGEON, F.G.S., Assoc. Inst. C.E.

Books you may hold readily in your hand are the most useful, after all
DR. JOHNSON

NEW YORK
HARPER & BROTHERS, PUBLISHERS

1885

J. Davis. Barnett.

PREFACE.

THE United States of America are a great alembic, into which the emigrant vessels of Europe are constantly pouring a vast quantity of unknown, doubtful, and even explosive matters; the raw material of the American people that is yet to be.

The "American," such as I would distinguish him, is a social alchemist, the inheritor of a philosopher's stone bequeathed him by a pious, free, and courageous ancestry, and competent, as he believes, to transmute national character from base to sterling metal. Democracy is his social solvent, the common school his crystallizing agent, and intelligent freedom the shining product which he seeks in his laboratory. His arduous task is to separate obstinacy from English courage, superstition from French thrift, indolence from Irish shrewdness, want of enterprise from Scandinavian industry, shiftlessness from Negro docility, and indifference from Chinese skill and patience.

The Old World watches the transmuter closely, regarding his methods, perhaps, too distrustfully, and criticising his results too harshly, but, nevertheless, profoundly convinced that the most important problem of the modern world is being worked out under its eyes in the evolution of the American people.

Shall we take a glance, reader, at the alchemist's home and labors?

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OLD-WORLD QUESTIONS AND NEW-WORLD ANSWERS.

CHAPTER I.

AMERICANS AND AMERICANS.

THE average English tourist of to-day spends, usually, a few weeks in cosmopolitan New York, pays flying visits to the Falls of Niagara, the political capital, and the greater cities of the Union, but thinks his trip only beginning when, turning his back on the Atlantic slope, he joins the ranks of the great army of civilization which is always on the march to the Far West.

His chief halts are made, probably, at Chicago, St. Louis, the City of the Saints, the mining camps of the Rocky Mountains, and the cattle-ranches of their western flanks; on the peaks and passes, or by the blue lakes, of the Sierra Nevada; in the cities of her silver kings, or among the wheat-fields of Central California and the orchards and vineyards of the Pacific slope. At length he reaches the city where the old and the new world meet, and, through the portals of the Golden Gate, sees the sun set beneath the misty western horizon. Then he turns, to recross, in a single flight of seven days' duration, three thousand miles of mountain, desert, river, prairie, cultivation, and forest. During all that time he passes rude camps, remote homesteads, farming villages, mushroom towns, and settled cities, the homes of miners, ranchmen, pig and grain growers, lumberers, husbandmen, and citizens.

Finally, he steps on board ship to return, in the full belief that he has seen America. And, geographically speaking, this is true; but, be he never so observant a man, such a trip can teach him next to nothing about the American people, properly so called. He has, indeed, become acquainted with a heterogeneous population of English, Irish, German, Scandinavian, and Italian birth, to say nothing of Negroes and Chinese, whom we collectively call Americans, al-

though they are only one people in a political sense, being as distinct from each other, and from Americans proper, as if they or their parents had never left their native homes. A time is coming, though this is still many generations distant, when these various races will become blended into one, and the title of "American" gather a significance not, as yet, existing or even conceivable. Meanwhile, it is scarcely trifling with the average English reader to inquire whom we may properly call Americans and where they are to be found.

The act of Elizabeth which, three centuries ago, opened the Bible for the first time to the English people was attended with unexpected and stupendous results. By furnishing new conceptions of life and man, it changed the whole temper of the nation and gave a new moral impulse to the people, while from Bonner's chained Scriptures in St. Paul's Cathedral there ultimately sprang not only Puritan England, but Republican America. Vainly, after the disclosure of the Hebrew literature had wrought the Reformation, as the disclosure of Greek literature wrought the renaissance, did priest and king endeavor to fetter the national conscience, or to demand that uniformity in religious belief and practice which the princes and statesmen of the seventeenth century considered essential to the safety of society. Vainly were the Puritan clergy deprived, fined, or imprisoned for their nonconformity: they had glimpsed the great principle of religious liberty and were soon to be in full view of civil enfranchisement.

"Separatist" congregations, withdrawing from public worship on the ground that the existence of a National Church was contrary to the Word of God, grew quickly in number from tens to thousands, and these, when the hand of the persecutor fell too heavily, fled over sea to Holland. One such body of poor Lincolnshire "Independents" left England in 1607, under the leadership of their minister, Mr. Robinson, a man eminent for piety and learning, and took refuge, first in Amsterdam and afterwards at Leyden. To preserve the morals of their youth, endangered, as they believed, by the "dissolute manners" of their Dutch neighbors, they presently determined to proceed to America and settle under the general government of Virginia.

This colony, "The Old Dominion," as it is sometimes called, had established itself on the shore of Chesapeake Bay some twelve years before, under a charter from James I., but its members generally were neither industrious nor energetic. Many of them were "useless gentlemen," bankrupts and pardoned criminals, who, for the most part, employed themselves in looking everywhere for gold instead of ploughing and sowing. Their leader, Captain John Smith, a man of singular ability and energy, had implored the company in

England to send him out some honest artisans, "thirty of whom," he wrote, "burdened with a family, would be better than a thousand such as I have."

The high character of the Leyden refugees being well known, the Virginia Company gave a warm welcome to their proposal; but the king, on being petitioned, refused to grant them any public recognition of religious liberty, although he promised that they should not be molested on account of their opinions, so long as they lived in accordance with the laws of England. In the result, the *Mayflower*, a bark of a hundred and eighty tons, carrying about one hundred pilgrims, sailed from Delft in 1620, and dropped her anchor, in November of the same year, within the harbor of Cape Cod. It was the intention of the pilgrims to have landed at the mouth of the Hudson River; but the Dutch, intending to plant a colony of their own in this locality, bribed the master of the ship to make a more northerly landing, and, afterwards, to raise difficulties in the way of sailing southwards at that season of the year. Finding themselves thus without the limits of their patent and the jurisdiction of the Virginia Company, the refugees formed themselves, before landing, into a body politic, signing a common agreement, whereby equal rights were accorded to each member of the community, and the principle of government by the will of the majority was affirmed.

Familiar as we now are with representative institutions, it seems strange that no English tongue or pen had previously dared to assert this, then novel, doctrine. In that despotic and superstitious age public opinion itself gave willing support to the monarch's claim to be considered the sole fountain of power and privilege, and popular rights were not as yet conceived of, except as grants from the crown. But the minds of the Leyden pilgrims had so long been saturated with the ideas of primitive Christianity derived from Elizabeth's open Bibles, and their consciences were so purified by the practical application of religion to the daily conduct of life, that, pushed by the force of the circumstances in which they found themselves, they easily discovered a truth in the science of government to which preceding centuries had been entirely blind. "Thus, on the bleak shore of a barren wilderness, in the midst of desolation, with the blast of winter howling around them and surrounded with dangers in their most awful and appalling forms, the pilgrims of Leyden laid the foundation of American liberty."

But what, it may be asked, have these commonplaces of history to do with the question, "Who are the Americans?" Well, we have at least reminded ourselves that the settlement of New England was made by men who were pre-eminently English in their love of civil and religious freedom, and another glance into the past will show that, from the moment of its establishment, the English Puritans re-

garded Plymouth in North America as their true home. In the course of a few years, band after band of religious fugitives crossed the Atlantic, escaping from a persecution less rigorous, indeed, than that which drove the Separatists from their native land, but urging them, equally with their predecessors, to seek religious liberty abroad.

Thus, in the summer of 1629, there came sailing into what is now Salem Harbor five vessels, one of which was the *Mayflower* herself, bringing two hundred Puritan emigrants, and, in the next year, came Governor Winthrop, with eight hundred more. As the king's tyranny and Laud's intolerance grew the refugees increased from hundreds to thousands. Nor were they adventurers, bankrupts, and criminals, like the earlier colonists of the South; but always respectable, often highly educated, and sometimes rich men. They had powerful friends in England, a charter from the king, securing them in the right to govern themselves as they pleased, so long as they did nothing to contravene English law, and both Winthrop's and succeeding expeditions came well provided with supplies of all kinds, including cattle and sheep, of which the pilgrims had none. Such were the settlers of the Massachusetts Bay colony, the founders of Trimountain, afterwards called Boston, of Salem, Roxbury, Dorchester, Watertown, and other places now flourishing cities and towns.

But, although strong and rich, the new colonists suffered almost as much in their earlier efforts to subdue the wilderness for the use of man as did the pilgrims themselves; while, save in their kindlier feeling towards the mother country, the Puritans differed but little from the Plymouth settlers in opinions or mode of life. Hence, though for many years the two colonies were entirely separate, they presently began to gravitate together, and before the close of the century had become united under the name of the colony of Massachusetts, the "Country of Blue Hills."

Thereafter, for more than a hundred and fifty years, these Englishmen of Englishmen remained without any accession to their numbers, except from men of their own race and religion. During all this time they toiled unceasingly, and as one man, at the almost desperate task of clearing, road-making, and building; while, at the same time, they created a society and form of government which, monarchy and aristocracy aside, was intensely English in its customs, habits, and laws. No circumstances can be conceived of more favorable to the production of a powerful and distinctive type of national character, a character whose high qualities were to be displayed later in the heroic acts of the Revolution, the establishment of the republic, and the enthronement of freedom.

Now, it is within the memory of living men that this people, such as I would distinguish them, have begun to receive any admixture

of other than English blood. Fifty years ago the great wave of European emigration, which, to-day, throws annually more than a million of souls on the American shore, had scarcely begun to rise. At that time there was hardly a name in New England which was not English, and its people were, perhaps, more typical Anglo-Saxons than those of the mother country itself. Of intermixture between the settlers and Indians there was practically none, the English aversion to cross with aboriginal races being, in this instance, accentuated both by the prohibitions of religion and the hostility of the native tribes. The "Americans," indeed, as writers not a hundred years old rightly designated the redskins, were pushed back before the advance of a new nation, English in its origin, language, and laws, but, above all, English in its devotion to the Bible.

The one home of this people was, for generations, New England; but they have spread, with the development of America, over the whole continent, being everywhere the leaders of enterprise and shapers of the forms under which civilization has manifested itself in every state, territory, and township of the Union. The heterogeneous hordes now in process of occupying the public domain of America are not as yet Americans. It is the sons of New England, the descendants of the Puritan emigrants, whose principles and characters have been formed by the social and political influences created by their forefathers, who alone can be called Americans. To them must be added the Quaker colonists of Pennsylvania, the form of whose institutions, whether religious or political, was largely determined by the example of their Puritan predecessors.

The future of the American people is the greatest question of the modern world, and it is because this vast trust is in the hands of men of English blood that intelligent Englishmen take an interest which is quite unique in American travel. If the tourist in the States is, at first, most strongly attracted towards the strange life, peculiar scenery, or new sport of the West, he presently finds himself considering, with at least equal interest, the social and industrial problems of the East. No peak or cañon of the Sierras, indeed, no stretch of sunlit sea-like plain, no forest of giant pines, no mountain mining-camp, offers to the Englishman in America objects of such interest as may be found in New England's rocky valleys, whose swift streams turn a thousand mills, and whose prosperous towns, happy homes, and bright people suggest many a grave question to the least thoughtful Briton.

For the average man, with time on his hands, money in his pocket, and the great continent of America open before him, a summer ramble through the manufacturing districts of New England is scarcely a tempting holiday programme. Most people, indeed, prefer to visit workshops and workmen vicariously, care nothing for

the companionship and conversation of labor, and readily delegate to volunteers the distasteful details of inquiry into industrial questions. All such sensible sybarites I invite to accompany me on a short flight through the roaring valleys of Massachusetts and Connecticut, promising that no one shall touch pitch in the course of the trip, while we will linger long enough, on our homeward way, whether by the brown Hudson, blue Lake George, or the sea-green St. Lawrence, to wash the dust of the mills from the minds of over-sensitive readers.

CHAPTER II.

NEW ENGLAND—ANSONIA.

CAPTAIN JOHN SMITH, the remarkable man who, as we have seen, directed the early operations of the Virginia Company, was, among other things, a daring navigator. He made expeditions, at various times, along the coast as far as Maine, and gave the name of Plymouth to the spot where the Pilgrim Fathers landed, many years before that event took place. It was he, indeed, who first called this part of America "New England," a title subsequently adopted in the patent of James, which created a council "for the planting, ordering, and governing of New England."

Of the six states now comprised under this designation, Massachusetts was the first to be settled by the Puritan refugees. Maine was long a mere hunting-ground, and remained practically a part of Massachusetts until after the Revolution. The earliest settlers of New Hampshire were fishermen, who, being once rebuked by a travelling minister for their neglect of religion, said, "Sir, you are mistaken; you think you are speaking to the people of Massachusetts Bay. Our main object in coming here was to catch fish." Vermont was first explored by Champlain, the great Frenchman who founded Quebec, but had no settlers till early in the eighteenth century, and was not recognized as a separate colony before the Revolution. Rhode Island was founded by a young Baptist minister, named Roger Williams, who fled there in 1636 to escape persecution at the hands of the Puritans, who, if themselves religious refugees, had little toleration for any but their own forms of belief. Connecticut was settled by the English and Dutch simultaneously, but the former were the first to reach and cultivate the rich valley of the Connecticut river.

New England, although two fifths larger than Old England, contains only four millions of inhabitants, or less than a hundred and twenty persons to the square mile, the population being most closely aggregated in the manufacturing states of Massachusetts, Rhode Island, and Connecticut, where the people number two hundred to the square mile. The western half of the country is occupied by several parallel ranges of mountains, the most easterly undulations of the Alleghany chain, which run almost north and south, and rise

like waves of gradually increasing height from the Atlantic slope. The last stretches from the hills to the ocean, and is a region of plains, low hills, and well-watered valleys, thickly settled, well cultivated, and the site of all the chief towns and cities of the Eastern States.

The western valleys of Massachusetts and Connecticut are the homes, *par excellence*, of American manufacturing industry. Carrying swift and important streams to the sea, they thus, in the first place, invited settlers to their banks, and most of these river-courses are now dammed at short intervals, while around the dams there cluster factories, mills, and the homes of labor. These are, for the most part, hemmed in by high, forest-covered hills, sometimes rising two or three thousand feet above sea-level, and are reached by railways which stretch from the seaboard into every valley boasting a mill-stream.

The Housatonic, one of the most important of these industrial rivers, flows for a hundred miles of its course between the picturesque wooded flanks of the Green Mountain and Taconic ranges, before debouching into the Sound. Its tributary, the Naugatuck, runs almost parallel with the larger stream for the greater part of its course, and the banks of both rivers hum with the sounds of industry from one end to the other.

It was a bright May morning, with the sky of Italy and air more invigorating than wine, when we started, an Anglo-American party of two, with the intention of visiting some of the Naugatuck and Housatonic factories, and of seeing how the homes of labor in New England differ from those of Old England. Leaving New York, the railway skirts the coast and crosses a seemingly endless succession of drift beds, plainly of glacial origin. The drift overlies azoic gneisses, huge shoulders of which rise above a plain of arable soil, just as islands rise from a sea. Where the primitive rock is very thinly covered with earth, there occur patches of forest trees, whose roots scarcely find sustenance in the crevices to which they cling. Saving the forest, the aspect of the country is essentially English. Small fields are divided from one another by walls built of the bowlders picked from the soil. Pretty farmhouses recur at short intervals, and snug private houses, surrounded by well-kept gardens, herald, now and again, our approach to flourishing towns.

Arrived at Stratford, where the Housatonic debouches into the Sound, we strike northwards and follow the river to its junction with the Naugatuck, through a country also of rounded gneissic hills, which are deeply buried in level sheets of drift. Clearings and forest alternate for a time, but the latter presently prevails. Tiny brooks of clear brown water wander around the stems of the trees and among the mossy bosses of rock, while great tufts of the

"skunk cabbage" (*Symplocarpus fatidus*) spring abundantly beside every watercourse, arresting attention by their brilliant green color. "New England is a country of laughing brooks," said a travelling companion once to Mr. Secretary Evarts, who was as great a joker as he was a good lawyer. "It must be so," was the answer, "or the books would not say so much about 'diverting watercourses.'"

The Housatonic and Naugatuck join at Derby, where their united streams sweep majestically around high hills which are everywhere covered with forest, leafless and gray as yet, but relieved by occasional clumps of beautiful evergreen hemlocks. Entering the Naugatuck valley, we caught sight of the manufacturing town of Birmingham, lying on the junction of the two streams. The name recalls ideas of a smoky town, with dingy suburbs, overhung by a murky sky, but the view from our car windows was of something very different from this. A number of massive brick buildings—one scarcely knew in the distance whether they were factories or castles—lined the beautiful curve of the river, and shone, rosy red, in the sunlight, through pearly morning mist. Above the latter, which lay low on the water, rose tier upon tier of gleaming white houses, the highest of them peeping out from the hillside forest, while overhead was the blue arch of an Italian sky.

The Naugatuck river is a clear mountain stream of considerable volume, which, but for the intervention of man, would seek the sea in a series of rapids. It has, however, been so often dammed as to exhibit a succession of beautiful mountain tarns, whence artificial canals, called "raceways," lead to the various mills. We made our first halt at Ansonia, the creation and namesake of a Mr. Anson Platt, who dammed the river at this spot about thirty years ago, and built the first of the great "brass-mills" for which the Naugatuck is now famous. These mills all originated in the following way. The stream, being easily controllable, while its flow of water is abundant, offered great advantages to the early makers of wooden clocks, who may be called the pioneers of manufacture in America. They established small water-wheels and modest workshops here in considerable numbers, and, by and by, as metal came into use for clock-making, a few brass-rolling and wire-drawing mills arose in the valley. These, when the staple trade was dull, sought an outlet for their sheet and wire by making pins, lamp-fittings, cartridges, ferrules, arrow-heads, shoe-tips, corset studs, wire chain, and a thousand other trifles, such as can be stamped from brass sheet or twisted out of wire. There came a brief, bright time, indeed, when every mill on the Naugatuck turned its attention with advantage to the making of "hoop-skirts." But when fashion presently decreed the reign of scanty dresses, an industrial earthquake shook the crinolene factories almost to their foundations. Since then, clocks and

pins have dominated the district, and, if I say nothing of the former until we reach Waterbury, the capital of Clockland, the latter may be appropriately sung at Ansonia.

There were but two pinmakers in the American colonies during revolutionary times, viz., Jeremiah Wilkinson, a Rhode Island wire-drawer, and Samuel Slocum, also of Rhode Island, whose patent machine for making solid-headed pins was already working in England. At this time imported pins sold for 7s. 6d. a dozen; so that we read without surprise of a state offer of "£50 for the best twenty-five dozen pins of domestic make, equal to those imported from England." In 1831, Dr. Howe, of New York, invented a machine which made pins at one operation, and, a few years later, a pinmaking company was formed, which continued its operations, under the charge of Dr. Howe, until 1865.

The Wallace Brass-Mill, one of the largest concerns in Ansonia, owes its origin to the introduction of the Howe pin-machine. This has already created a demand for brass wire which could not be met, except by importation, there being little practical skill in wire-drawing available in America at that time, when Mr. Wallace, originally an English wire-drawer, was found working at Birmingham, Connecticut, and proved the man for the occasion. He was soon persuaded to pitch his tent at Ansonia, and began making pin-wire about twenty-five years ago, with scarcely twenty men to assist him. His mills now employ seven hundred hands, and, aside from wire and sheet, turn out enormous quantities of the useful trifles of which some have already been enumerated. These, like pins, are all produced by extremely clever and very interesting automatic machinery, which it seems the special province of the Americans, and especially of the Connecticut mechanic, to devise.

This remarkable character, who, more than any other person or circumstance, has given its distinctive features to American manufacture, is a figure of so much industrial importance that we cannot make his acquaintance one moment too soon. He is usually a Yankee of Yankees by birth and of a temperamental, thoughtful to dreaminess. His natural bent is strongly towards mechanical pursuits, and he finds his way, very early in life, into the workshop. Impatient of the fetters which trade societies forge for less independent minds, he delights to make his own bargain with his employer, and, whatever be the work on which he is engaged, bends the whole force of an acute but narrow intelligence to scheming means for accomplishing it easily. Unlike the English mechanic, whom a different education and different circumstances have taught to believe his own interest ill served by facilitating the operations of the workshop, the Connecticut man is profoundly convinced to the contrary. He cherishes a fixed idea of creating a monopoly in

some branch of manufacture, by establishing an overwhelming superiority over the methods of production already existing in that branch. To "get up" a machine, or series of machines, for this purpose, is his one aim and ambition. If he succeeds, supported by patents and the ready aid which capital gives to promising novelty in the States, he may revolutionize an industry, forcing opponents who produce in the old way altogether out of the market, while benefiting the consumer and making his own fortune at the same time.

The workshops of Massachusetts, Rhode Island, and, especially, of Connecticut, are full of such men. Usually tall, thin, reflective, and taciturn, but clever and, above all things, free, the equals, although mechanics, of the capitalist upon whose ready alliance they can count, they are an element of incalculable value to American industry. Their method of attacking manufacturing problems is one which, intelligently handled, must command markets by simultaneously improving qualities and cheapening prices. We ourselves certainly aim, as they do, at the specialization of manufacture, but one scarcely treads upon the threshold of Clockland before feeling how much more universally the system is being applied in the States than here. Tools and processes which we are inclined to consider as exceptionally clever are the commonplaces of American shops, and the determination to do nothing by hand which can be done by a machine is a marked characteristic of the workmen there, while it scarcely exists among operatives here. The "Connecticut man" will crop up again and again in the course of our trip. He is an element of the utmost importance in the industrial development of America, a force of which we, unfortunately, have no equivalent in England, and that is why I have taken the earliest opportunity of introducing him to the reader.

Returning to pins, it is really charming, if I may use a word usually reserved for descriptions of personal or natural beauty, to watch the pretty little automaton called a pin-machine. This little creature feeds heartily, but without haste, on a coil of brass wire, and, immediately after taking a bite, turns one end of the pin that is to be, held firmly in a gripping die, towards a small hammer, whose blows fall too rapidly to be counted or even seen. The headed shanks next drop, one by one, into radial notches in a horizontal disk, where they look like pointless pins stuck, heads inward, around a flat pincushion. This pincushion turns slowly round, and presents each projecting shank successively to the rims of three tiny grindstones, revolving at a very high speed, which first form and then finely finish the points. Hour by hour the steel jaws snip the wire, the hammers beat their rapid tattoo on the heads, the rowel of wire shanks turns slowly over the hissing little grindstones,

discharging a hundred and seventy finished pins per minute. It is like watching, through a microscope, the wheel-like play of a rotifer's cilia.

Time and the reader's patience would both fail, did I attempt to describe all the automata of the Wallace Brass-Mill. Here is a row of strange organisms, in shining nickel-plate costumes, nipping away, like the pin-machine, at a roll of brass wire, and carrying the pieces, one at a time, by means of fingers as shapely as those of a girl, to be headed, and then dropping them, finished corset studs, as fast as one can count, into a box. There is another group of wire-eaters, taking in brass and turning out chain at the rate of seventy links a minute, no one regarding, while the links grow from yards to miles. Here is a wonderful automaton which sticks two thousand pins a minute into pin-papers, and there another, which punches, folds, and glues together cardboard pin-boxes, at the rate of a thousand an hour. Such is the character of the surroundings among which the Connecticut man lives, moves, and has his being. Here he observes, alters, amends, and schemes. These pulsating and quasi-living beings are his children and companions, who give him occupation, pleasure, and stimulation. The thousand wants of the world offer him a boundless field for his creative powers, and, silently brooding, he brings forth, now and again, a new automaton, as a poet produces a verse, or a musician a melody.

The deep, thrilling notes of many steam-whistles having proclaimed the factory dinner-hour, we made our way, in company with a stream of artisans of both sexes, to the "Hodgkiss House," in search of refreshment. Married operatives in America usually live in their own houses, while unmarried labor generally "rooms" in tenement-houses and "boards" in establishments, which, while practically eating-houses, are ostensibly hotels. "Table boarders" are sometimes called simply "mealers," or even, when a buggy goes round to collect the scattered *clientèle* of a given house, "hauled mealers;" but we, on this occasion, were "transient mealers."

We entered a large dining-room, very clean, well furnished, and simply but nicely decorated, set with small, separate tables, dressed in the whitest linen and attended by trim girls, who, if their manners were independent, waited smilingly and well. No printed bill of fare appeared, but the waitress whispered rapidly in the ear of each guest, "Hash and tea, pork and beans, potatoes, stringbeans, succotash, pie-plant pie, apple and cranberry pie." A little puzzled, but always anxious to act the Roman in Rome, I called for "Hash and tea, succotash, and pie-plant pie;" and then looked around at the company. The room was crowded with diners of both sexes, whose dress, manners, and speech scarcely distinguished them from an average hotel crowd, and, hampered as yet by English ideas, I

had to ask more than once if I was really among American artisans. Before I could feel fully assured on this point, came my hash and tea; I dared not ask for beer, for likely enough Ansonia might be a teetotal town, and I already knew that American operatives drink nothing stronger than ice-water, coffee, and tea. The compound of beef and potatoes was excellent, and "succotash" proved to be a stew of mixed Indian corn and beans, a dish which, as I afterwards learned, the Pilgrim Fathers adopted from the natives. "Pie-plant pie" was a surprise, being nothing else than rhubarb tart, predestinarian Puritanism having early recognized and acknowledged by name the manifest destiny of this useful vegetable. The midday meal was soon despatched, the orderly, respectable crowd strolled off to the various factories, and we found ourselves, after a temperate repast, fit for any amount more work, while the day was as yet hardly half spent.

The most interesting and newest factory in Ansonia is that of the Postal Telegraph Company, where Professor Farmer's patent compound telegraph wire is now being manufactured on a very large scale. It is not long since the American press startled the world of science by announcing that a telephonic conversation had been carried on successfully between Chicago and New York, cities which are more than a thousand miles asunder, a distance forty or fifty fold greater than the length of any ordinary telephone line.

A telegraph line may be regarded as a road, along which electric currents travel from a battery at one end of the wire to some form of mechanism which is capable of recording the passage of such currents at the other. These currents are never very powerful, and sometimes, as in the case of the telephone, almost infinitely feeble; so that, if we figure them to our minds as wheeled carriages in movement, we can understand that their motion will be greatly influenced by the comparative roughness or smoothness of the road they traverse. All the metals, as is well known, are "conductors" of electricity, or, in other words, offer little resistance to its passage through their substance, but they are so in very different degrees. Of the commercial metals, copper offers scarcely any resistance to the passage of electric currents, but cannot be advantageously used for line wires, because it bears little tension, stretches excessively, soon loses its elasticity, and is much affected by temperature. Iron wire, on the other hand, being cheap, and superior to copper in all the points just enumerated, has come into universal use for telegraph wire, notwithstanding its comparatively high resistance to the passage of electric currents. The idea of plating a steel core with a copper skin, and thus combining the strength of one metal with the conductivity of the other, was entertained many years ago, but was never successfully reduced to practice. Electro-plating, by

means of batteries, was found much too slow and expensive a process for covering such lengths of wire as were required, while there was not sufficient adhesion between the deposited copper and the steel core to permit of the compound wire being lengthened by the process of "wire-drawing." Professor Farmer's advance on what had previously been accomplished consists in employing the very powerful currents obtainable from dynamo-electric machines, in combination with a simple but very ingenious plan of passing coils of wire of any length continuously through the plating vats.

We enter a great one-storied building, some two hundred and fifty feet square, at one end of which stand twenty-four large dynamos, weighing together some sixty tons. These are driven by engines of six hundred horse-power, and the resulting current of electricity is carried through thick copper bands to the electroplating tanks. If one wishes for a demonstration of the tremendous energy which courses silently through these conductors, it is sufficient to divert a very small portion of the current and pass it through a rod of carbon, such as is commonly used in the electric lamp. This is soon made to glow with an intense white heat, and is finally deflagrated in a burst of brilliant flame. When the factory has been once or twice illuminated by the lightning-like flash of this experiment, the mind recognizes something akin to the silence which heralds a thunder-storm in the unusual quiet of this singular workshop.

Two hundred and fifty wooden troughs, each about twenty feet long, constitute the battery of plating vats. These are arranged in rows, and contain an electrolytic fluid, as usual in ordinary electroplating. Over each trough a longitudinal spindle turns slowly round in bearings, and from this, like rings on a stick, hang as many spires of a coil of steel wire as the tank will contain. Each spire is separated from its neighbor by a slip of glass, while that part of the steel wire coil which cannot find room in the tank depends from the revolving spindle which overhangs it for this purpose. In this way the wire is, so to speak, screwed slowly through the electrolytic bath, from which it issues coated with a copper envelope. The operation is repeated three times, and results in the deposition of four thousand pounds of copper per day upon eight miles of the steel core, the two together forming a conductor rather less than a quarter of an inch in diameter, weighing seven hundred pounds to the mile, and composed of copper and steel in the proportion of five to two. The largest wire used in telegraphy resists the passage of the current with five times more energy than its new rival, while it is nearly twice the diameter, proportionately heavier, and of no greater tensional strength than the compound wire.

Already Professor Farmer's line stretches from New York to

Chicago, and will span the United States before these words are printed. A thousand words have been transmitted a thousand miles in one minute, and ten messages sent over it simultaneously, five each way, for the same distance. Telephonic conversation has been carried on by its means between cities separated by nearly half the Continent, and the men who listened in Ansonia to speakers in Chicago believe that the whisper of a human voice will yet make itself heard from the Atlantic to the Pacific shore.

CHAPTER III.

CLOCKLAND.

ASCENDING the Naugatuck valley for a few miles, we reached Waterbury, a town of twenty thousand inhabitants, and the capital of Clockland, where, within a radius of twenty miles, more clocks are made than in any other part of the world. There is, indeed, a hint, in the scenery of Naugatuck, of that other watch country, Switzerland, whose industrious people till their ungrateful mountain farms in summer and make watches in their chalets during winter. Here is the same rough country and poor farming land, but the people are congregated in great factories, where thousands of clocks are made every day, by means of beautiful special machinery.

Fifty years ago, a clock was an heirloom, even in well-to-do American families, but scarcely any home is without one to-day, and this change has been brought about by the skill and enterprise of the Connecticut man. Towards the close of the last century Eli Terry established himself in the town of Plymouth, Connecticut, and began making wooden clocks. The teeth of the wheels were first described by a pair of compasses and then cut out with a hand-saw, while, aside from a few pivots and fastenings, there was not a piece of metal in the old Yankee clocks. For a good many years, Terry sold his clock movements for five pounds apiece, and these were cased by the local joiner whenever the farmer or trader brought one home to his family and village. That is why the upright clocks of a hundred years ago have so much character about them, and the true reason of their popularity among persons of good taste. In 1807, Terry commenced making wooden clocks by machinery, and, about the same time, Riley Whiting, another Connecticut man, started a wooden-clock factory at Winsted, a few miles from Waterbury. He introduced a great many improvements in the manufacture, and finally became the most important clockmaker of his day in America.

Meanwhile, competition had already reduced the price of wooden movements from five pounds to twenty shillings, when a certain Chauncey Jerome suddenly revolutionized Clockland, by the introduction of a clock made entirely of brass. The framework and wheels of this timepiece were punched out of sheet metal, and its

spindles turned in automatic lathes, the effect of this change in the common practice being to reduce the cost of a clock movement to about two shillings, and the price of cased clocks to eight or ten shillings apiece. A first consignment of Connecticut clocks was sent to England in 1842, and, since that time, not only have they found their way into almost every British kitchen and cottage, but have been scattered by millions broadcast over the world.

Aaron Dennison and Edward Howard were the first persons who attempted to make watches by machinery. Their object was to improve upon the cheaper Swiss watches, and, competing with low-priced labor by means of special tools, to beat the Genevese in their own markets. After a series of experiments, lasting over two years, they felt emboldened to seek the assistance of a Boston capitalist, Mr. Samuel Curtis, and the first watch factory was built at Roxbury, Massachusetts, in 1850. This modest establishment was only a hundred and fifty feet long and twenty-five feet wide, but the pioneers of mechanical watchmaking thought it would probably be sufficient for all purposes, and were bold men at that, forty-four years ago. They began by making eight-day watches, but had only completed fifty of these when the pattern was pronounced a failure. The usual thirty-hour watch was next adopted, and before a thousand had been put on the market, it seemed desirable to increase the scale of the enterprise. A factory, ten times larger than the first, was accordingly built at Waltham, Massachusetts, in 1854, where a newly organized corporation, called the Boston Watch Company, began work on a greatly extended basis.

But the heavy outlay on experiments, machinery, and the instruction of help was too much for the resources of the new concern, and, three years after the Waltham works were opened, the company went into liquidation. Mr. Howard, under whose management the new business had been conducted, fell back on the old Roxbury factory, which, in course of time, he enlarged to ten times its original capacity. There he still remains, making higher-class watches at a higher price than was at first proposed, and enjoying an excellent reputation as a watchmaker. Other enterprising men bought the Waltham factory, and, conquering in the course of time the early difficulties of the undertaking, have made the name of these works more widely known and connected them more closely with the idea of machine-made watches than any other concern in the world.

Clockmaking, as we have seen, was an important industry in the Naugatuck valley before watchmaking by machinery had come to the birth, but it was not in the nature of the Connecticut man to be satisfied with the success, such as it was, of Roxbury and Waltham. He burned to do for watches what Chauncey Jerome had done for clocks: to make them by the million, for the million, and put them

into everybody's pocket, as clocks had already been put upon everybody's mantelpiece. We shall see how far he has succeeded, when, after a glance at the works of the Waterbury Clock Company, we find our way to the splendid factory of the Waterbury Watch Company, scarcely as yet five years old, but one of the most beautiful industrial establishments in the world.

The sun was hot, although the air was keen, as we strolled up the shady sides of Waterbury streets from the railway station to the centre of the busy town, taking notes of a few characteristic Americanisms by the way. I made a terrible blunder, for instance, very early in the day. A tourist's hair is always too long, and, having half an hour to spare, I stepped into what I thought was a hair-dresser's shop, and asked the smart girl behind the counter if I could have my hair cut. She smiled in a superior way, and said, "You are a stranger, sir, I guess: this is a human-hair depot, and not a barber-shop." Turning to the window, profusely dressed in "bangs" and "waterfalls," I asked pardon if the display of these masterpieces had suggested to a British mind the idea of a hair-cutting saloon within. Softened by my humility, she then informed me that a dealer in "fine human-hair goods" is a cut above a mere hair-dresser, and, certainly, if a handsome shop in one of the best streets of the town could testify on her behalf, it did so in the present instance. Every factory girl must, of course, have a "bang," even if it is made of jute and costs only a few cents; but a "waterfall," worth any number of dollars, seems equally a necessity among richer classes in the States, where this human-hair business flaunts itself and flourishes in a very remarkable manner.

I am afraid that the present generation is only half acquainted with the immortal Yankee pedler whom Haliburton described with the pen of a Dickens, and who remains to this day one of the most characteristic institutions of New England. But, if Twain, Harte, and other American humorists have overshadowed the great pedler for a moment, this delight of our youth will not die yet, for he may still be found in every town and village of the Eastern States.

About a hundred and fifty years ago an Irish tinman, named William Pattison, settled at Worthington, in the State of Connecticut, and, after supplying all the village kitchens with tinware, conceived the idea of packing his goods in panniers on the backs of horses and sending them to considerable distances in charge of his apprentices. The venture succeeded, and, by and by, the horse was supplemented by a cart, filled with a stock of tinware. An army of Worthington "tin pedlers" soon roamed all the settled states in the Union, calling at every door, and compelling custom by that easy audacity and readiness of speech of which Sam Slick is the acknowledged master.

The modern Connecticut tin-pedler carries many things besides tinware, to convenience mistresses and tempt maids, and, as we turn disappointed away from the "Human-Hair Depot," here is one of them coming down the street. He drives a vehicle looking like a stage-coach crossed by a wagon, whose long, windowless body is painted red, and whose wheels are bright yellow. The dusty machine is hung, externally, with brooms, brushes, and baskets, while inside it is stuffed with tinware, dry goods, and "notions." At the rear swing great bundles of feathers and rags, for the tin-pedler barter upon occasion, and, so far as rags are concerned, is the chief purveyor of the New England paper-makers. The fellow in question has the face of a double-distilled Yankee, and wears a stove-pipe hat made of tin and painted red, while his answer to our hail informs us that he carries a clever tongue, which can be persuasive or brazen, as occasion requires. He is evidently returning after a long expedition, for he is not keen to do business, and, watching his tired horses stumbling along the rough roadway, we think of him respectfully as one of the few old things in America, a survival in the country where scarcely anything survives the passage of the car of progress.

The Waterbury Clock Company's factory is a veritable palace of industry. The building is dignified, if not handsome, in appearance, and, as usual in America, specially designed for the purpose to which it is applied. It is spacious enough for the future extension of business, convenient for work, and comfortable in all its arrangements, both for master and man.

The New England manufacturer has no notion of spending the greater part of his day in a dirty, ill-furnished, ill-ventilated room, or, indeed, of asking his book-keeper to do so. On the contrary, he houses his staff in large, handsome rooms, fitted with many clever devices for facilitating work, from among which the telephone is never absent. Most of his clerks are girls, who also conduct the correspondence, using the type-writer almost universally for this purpose. The offices are kept scrupulously neat and clean, and their occupants are distinguished by an air of briskness very different to that which characterizes their duller brethren of the desk in England. The workshops, again, are so comfortable, and the operatives so like the masters in ideas and manners, that an Englishman is altogether, but very agreeably, surprised on his first introduction to a Yankee factory.

Gloze it over as we may, there is a great gulf fixed between the ideas of Old and New England on this radical question of the dignity of work. Our industrial occupations consist, speaking generally, of mere money-spinning. The places where, and the people by whom, we carry them on, are cared for economically,

and that is all. It is not in our business, but by our "position," that we shine in the eyes of ourselves and our neighbors. The social code of this country drives, yearly, numbers of young men, issuing from our public schools and universities, either into the overcrowded learned professions or into government clerkships, whose narrow round of irresponsible duties benumbs originality and weakens self-reliance. Capable, educated girls, are pining for a "career" in England, while posts, even the most important, are filled in New England by "young ladies," the equals of ours in everything which that phrase denotes, and their superiors in all the qualities that are born of effort and self-help. It is no one's fault, and I am not going to rail at the inevitable. We were originally a feudal country, and cannot escape the influence of our traditions. The man who does service for another was a "villein" in the feudal times, and is an "inferior" now; just as a man of no occupation is a "gentleman," and a governess a "person." Use has made us unconscious of the fact that the "dignity of work" is a mere phrase in our mouths, while it blinds us to the loss of national energy, which avenges outraged labor.

I sat, one day early last September, under the razor of a strange barber, when my gossip, wishing to please, said, "You had a fine day for the partridges on the first, sir, this year." Now, if I like trout-fishing on occasion, there is certainly nothing of the sportsman about my appearance, but this Nello of the Burlington Arcade, with his eye on a tip, thought he knew how to tickle me; for do not all his customers like to be considered members of the idle classes? And, being human, they cannot help it. The roots of our civilization were laid in feudality, although they have branched into freedom, but the tree has yet to bear the flower of equality. Hence, we remain a race of castes, whose boundary lines are so rigid as to be, at present, impassable. The "upper" and "lower" strata of society, the idle and industrial classes, indeed, cannot amalgamate, for they are separated by differences so profound that contact between them must be attended either by servility or hostility. Centuries of inequality have so degraded labor that its ranks are now effectually barred to culture, and our golden youth is squandered while we wait for the renaissance of industry.

Matters are very different in New England. The owners of these brass-mills and clock-shops are proud of that industry which—not only with their lips, but by their lives—they honor. Their operatives, with whom one dines at every Hodgkiss House in the Naugatuck valley, are well educated, well-mannered, and intelligent companions, hopeful as to their own chances of success in life, satisfied to see cleverer men than themselves growing rich, and honoring industry, because they, the children of industry, are honored.

But I am moralizing outside the factory, while my readers are anxious to go within. Having passed through the cheerful offices and admired the trim girl-clerks, our attention is pointedly drawn to a new system of fire-prevention, now coming into use throughout manufacturing New England. These mountain towns are well supplied with water, whose pressure is high and supply constant. A network of pipes, in connection with the town mains, is fixed to every ceiling in the factory, the pipes themselves being furnished with "sprinklers," or roses, each of which commands a space of about ten feet square. The plugs are closed by fusible metal, which melt at a temperature of a hundred and fifty degrees, giving vent, in case of danger, to a rush of water sufficient to extinguish any incipient fire. As a concurrent effect of any one of these plugs melting, an alarm-bell is set violently ringing, the whole arrangement being perfectly automatic and always ready for action.

The chief mechanical agent employed in making cheap clocks is the punch, a tool which has been brought to an extraordinary state of perfection in Connecticut. Wheel blanks are stamped out by it about as fast as one can comfortably count. These are clamped together, sixty at a time, on a spindle which, being turned round step by step, exposes the edges of the blanks to the action of a rotary cutter, grooving out four hundred teeth in a minute. The clock spindles, or "pivots," are turned in tiny lathes, whose tools, although held in the hand, are furnished with stops which determine the lengths and diameters of the work, independently of the operator. The separate pieces are taken up-stairs from the punch and lathe to be "assembled," and after this operation, which is an affair of a few minutes only in respect of a single clock, the finished "movements" are placed in a tray standing beside the workman. Each tray holds a hundred and fifty movements, and, when full, a boy carries it away to the "starter." This man sets each clock going and corrects any trifling defects in the previous operator's work. After running for twenty-four hours, the movements pass on to the "inspector," who returns the bad time-keepers either to the starter or to the assembler, and hands over the balance to the casing department, a totally distinct industry. The Waterbury Clock Company make about fifteen hundred clocks a day, and the total production of the New England clock-shops is not less than ten thousand a day. These are sold at prices varying from five shillings to ten pounds apiece, and are sent to every part of the world.

If the Waterbury Clock Company's factory is properly called a palace of industry, I want a new name to characterize that of the Waterbury Watch Company. The building itself looks like a fine town-hall or museum, and we, indeed, entered its handsome vestibule, doubtful whether we had not mistaken some public institution

for a manufactory. But we were soon reassured on this point by the manager, Mr. Lock, who responded to our letters of introduction with customary American kindness.

The watch factories of Massachusetts, whose origin and history have already been sketched, had long made it easy for people of moderate means to carry the time in their pockets, when it occurred to some of the long-sighted manufacturers of the Naugatuck valley that a good, reliable watch, at a price of about three dollars, would find a wide, unoccupied field, and might pay. The cheapest Waltham watch, constructed of more than a hundred and sixty pieces, costs a great deal more than three dollars, and the first thing, therefore, required to carry out the proposed programme was a good time-keeper, no toy, which should have fewer pieces in it than any existing watch.

There came, one day, a Massachusetts watch-repairer into the Centennial Exhibition, with a steam-engine in his waistcoat pocket, which, although a thimble covered it, had a boiler, cylinder, piston, valves, governor, crank and crank shaft, and would work. The maker, Mr. Buck, placed it side by side with the great Corliss engine, which was one of the wonders of the Philadelphia show, and, thus juxtaposed, these representatives of dignity and impudence remained throughout the exhibition. Mr. Charles Benedict, a partner in one of the largest brass-mills on the Naugatuck, and one of the promoters of the cheap-watch scheme, saw it, and, presently, asked Mr. Buck to design the three-dollar watch of the future. He undertook the commission, and, at first, failed. But a Yankee inventor follows a mechanical trail with the perseverance of an Indian, and, within a year, the watch-hunter had made a practical time-piece, having only fifty-eight pieces in it, all told. He took it to Mr. Benedict, who tested it in every possible way, and the watch stood the tests.

Preparations were at once commenced to make it on a large scale. A factory, designed by Hartwell, the architect of Waltham, was erected, and two years were spent in filling it with the necessary tools and machinery. Although the watch was to be cheap, it did not follow that the plant for producing it should be cheap also, and so it happened that, when the building was finished and furnished, nearly half a million of dollars had been expended. Manufacturing operations were commenced in May, 1881, and since that date the "Waterbury Watch," as it was called, has been steadily produced at the rate of six hundred a day, or one per minute.

All the parts of this watch are interchangeable. If you had a pint each of wheels, pinions, springs, and pivots, you could put any of them together, and the watch so produced would go and keep time. That is because each piece is made by automatic machinery, which cannot make errors as the hand can. But if you took twenty

Swiss watches to pieces and shuffled up their parts, you would spoil twenty watches, and not be able to make one that would go without fitting.

Having told us all this and much more, Mr. Lock put us in charge of a guide and we made a circuit of the workshops. These might more appropriately be called saloons, so sightly are they and so beautifully fitted with every appliance for comfort and convenience. Entering at the operatives' door, we came, first, upon the dressing-room, where each workman has his ticketed hooks for coat and hat, his own ticketed towel, while the common lavatory is equal to that of an English club. The girls' toilet-room is quite dainty in its arrangements, a separate supply of water, for instance, and separate vessels for face and hand washing being provided. The most exact neatness and scrupulous cleanliness are insured, by the appointment of a special attendant to this usually neglected department.

The "train-room" and "assembly-room" constitute the bulk of the factory, and to these everything else is ancillary. The first requisites of a watch factory are abundance of light, neatness, and cleanliness. No man can do his best when physically uncomfortable, whether from excess of heat or cold, a poor light, or, above all, bad air. It is now universally acknowledged, at least in the Naugatuck valley, that everything which contributes to the physical comfort and mental benefit of the workman pays a good return on its first cost. Hence, the walls of the train-room are all windows, the ceilings are high, the warming and ventilation is perfect. There is no smoke, dust, or bad air, and the operatives are comfortably seated at their respective benches.

The beautiful and costly special machinery which aids watch-making, as carried on in the States, is collected in this apartment. Here the various wheels, pinions, and pivots, forming the "train" of a watch, are made, the little automata which produce them being watched and tended, one cannot say directed, by girls. Here, for example, is the self-acting wheel-cutter, which spaces and cuts the teeth of fifty wheels at once. All its attendant has to do is to pick up fifty blanks, just as they come from the stamping department, slip them on a spindle, offer this to the automaton, cover the latter with a metal shield, to keep out dust, and start the machine. This, then, goes soberly on, feeding the wheels up to the cutters and spacing the teeth until all are cut, when it stops. The finished wheels are taken out, new blanks are supplied, and the wheel-cutter resumes work. There, again, is an automatic "staff"-turning lathe. The bit of steel wire on which it operates is only a tenth of an inch in diameter and a quarter of an inch long; but requires twenty-seven distinct operations to shape it to the proper form and dimensions. The girl who tends this machine really superintends some sixteen

thousand movements a day, sitting at her ease, meanwhile, in a comfortable chair, and giving her charge an occasional drop of oil.

The "assembly-room" might justify its name if it were a question of a county ball, instead of watchmaking. Here the parts we have watched in the making are given out, by the pint and the pound, and grow into movements, under the deft fingers of a number of specially trained watchmakers, at the rate of one per minute. Then they are cased, and, lastly, placed in shallow trays, holding each about three hundred watches, for testing. The trays are supported upon pivots, and can be swung into any position between the vertical and horizontal. The watches remain first upright, then at an angle of 45° and, finally, upside down, for a space of six days altogether, going all the time. Those which stop, or fail to keep time, are sent back to the "assembly-room," while those which pass muster are boxed and despatched to the native and foreign markets.

This factory cost, as we have seen, about half a million of dollars, employs three hundred hands, and turns out six hundred watches a day. These sell for two dollars forty-three cents apiece, and if any one should ask Mr. Lock, "Why not for an even two fifty?" he might perhaps answer, as once before, to such an inquirer, "Don't you know? Three cents is the cost of the watch, the *profit* is an even two forty."

A few moments before six o'clock we stationed ourselves at the factory door to watch the issuing operatives. Of these the greater number are girls, but, girl or man, almost every one had a smile and a nod for the manager, a smile and nod which were charming because of their eloquence as to the relations between employer and employed. Of one, Mr. Lock would say, "He is our librarian;" of another, "He teaches in my Sunday school;" of this girl, "She is the best singer in our church choir;" of that, "She is my wife's right hand at a bee." If there is military discipline inside the works, there is both friendship and equality between employer and employed without its walls. When Jack is really as good as his master, the old proverb has no sting.

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CHAPTER IV.

WINSTED—A TEMPERANCE TOWN.

THE Naugatuck valley heads about thirty miles north of Waterbury, and as our train threads its rocky bed, sweeps around its frequent curves, and enters its open bottoms, or "intervalles," as they are here called, we find the last almost always occupied by industrial towns. These are seldom more than three or four miles apart, are all Ansonias or Waterburys in appearance, full of brass-mills, clock-shops, pin-factories, and similar establishments.

Arrived within ten miles of the river's source, where it is no longer able to turn a mill-wheel, the railway leaves the stream and, crossing a low divide, reaches, within a few miles, another mountain stream, called the Mad River. This is a small but turbulent tributary of the Farmington, a river of considerable industrial importance, which drives a thousand wheels in its long, tortuous course through hills that turn it, now north, now south, on its way to join the Connecticut River. The Mad River valley is the double of the Naugatuck, excavated in the same primitive rocks and bordered by similar deposits of glacial *detritus*. These have been stratified by the action of water, and are conspicuous by their arrangement into flanking terraces, upon whose level, continuous surfaces the railways of these New England glens seek their remotest water-powers, as if by ready-made roads.

The woods on either side of the valley began to show signs of the coming spring. Although the birches and chestnuts were still quite bare, the half-unfolded leaves of some early maples patched the dark hemlocks with crimson, while the bloom of an occasional dogwood shone like a snowball against groves of evergreen pine. The river brawled loudly over its steep, rocky bed, and the air grew keen as we rose from the lower valley towns to a level of about seven hundred feet above the sea.

Here lies Winsted, a half-agricultural, half-mechanical town, of six thousand souls, jammed in a rocky glen, which is only just wide enough to accommodate its main street. This curves around a wide bend in the noisy stream, beside which it straggles for a long way, a broken line of churches, factories, stores, and private houses. Cross streets branch from it irregularly, ascending lateral valleys which

lose themselves in grassy uplands, and spread the dwellings of a few thousand people over the area of a little city.

They have an odd way in Connecticut of giving compound names to such new places as grow up from time to time between two or more existing townships in the state. Winsted is a case in point. It lies on the borders of Winchester and Berkhamstead, and has therefore been called Winsted. Waterbury itself is a compound of Watertown and Middlebury, Torrington of Torrington and Hartford, and Wintonbury of Windsor Farmington and Simsbury. The custom is fruitful of names having a sound which is English in character without being familiar to the ear.

A halcyon Sabbath, with a turquoise sky and heavenly air, seemed just the day for a clean pair of boots. Accordingly, we struggled for a time before breakfast with the shoe-brushes, which invite travellers to help themselves in the "washroom" of every rural hotel in New England. After a third-rate performance on these unaccustomed instruments, we sought the morning meal, consisting of Connecticut shad and Indian pudding. Connecticut shad has more bones than any other fish in the world. It is said, indeed, that an ingenious Connecticut man once constructed an automatic machine, which, upon turning a handle, delivered one stream of fish into the mouth, and another of bones behind the back. Everything went well with the inventor on a first trial, and might have so continued, but for an unfortunate accident. The machine was new, the motion unaccustomed, and, in his anxiety to take note of certain imperfect details, the schemer forgot which way the handle turned. One only revolution in the wrong direction was enough. The shad went over his shoulder, the bones into his throat, and the Connecticut man was choked before any one could say "Jack Robinson." His secret died with him, but not so the shad-bones, which still remain, the peril of American dinner-tables, the puzzle of American inventors.

And Indian pudding? Well, that is a kind of fritter made of maize flour, a dish which, in old colonial days, was eaten boiled on Saturday, while what remained "the queen next day had fried." These fine distinctions of right and wrong are not confined to New England. I remember, when a boy, that the Sunday dinner of cold meat was, indeed, relieved by boiled potatoes, but "it was wrong" to cook anything else. In the same way, baked potatoes were an orthodox dish for Sunday's supper, in families where it would have been thought sinful to grill a steak or toast a Welsh rarebit. They were not too good to boil and bake for us on the Sabbath at Winsted; but the man must be an infidel or an agnostic who breakfasts without Indian pudding on the Lord's day in New England.

The village streets were as silent as the grave when we sallied out of the hotel for a morning walk. The white wooden houses, with

their green jalousies, looked prim and prudish, while a most unpromising church dominated the silent streets with a stark wooden spire. Presently a stream of young people of both sexes, neat in dress and proper in manner, filed this way and that to their respective Sunday-schools. At nine o'clock precisely the church bell began to ring, not for the assembly of worshippers, but a "warning peal." This, in the colonial days, when a clock, as we have seen, was an heirloom, told the outlying farmers it was time to hitch up their teams and start with their families for the meeting-house. The bell still continues to toll, although every rural mantelpiece is now furnished with its two-dollar timepiece. Tin-peddlers, it seems, are not the only survivals in New England.

We strolled upwards from the main street towards the grassy slopes which surround the town, admiring the beautiful foliage of the hemlocks and wondering at the number of cottages which we saw in course of erection. The artisans of New England live, much more commonly than those of Old England, in their own houses. One half of the wage-earners in the manufacturing state of Massachusetts rent their houses, but one fourth of them are house-owners, while the remaining fourth are lodgers. There are, of course, differences between one district and another in this respect; such towns as those we have already visited having many more freeholders than the large industrial cities. Freeholders are fewer in the textile than in other industries, only one man in ten owning his own house at Fall River, the Manchester of America. At Winchendon, on the other hand, where they make wooden ware, at Westfield, where they make whips, at Lynn, where they make boots and shoes, one workman in every four is a house-owner.

Building is certainly made easy for operatives in New England. At Winsted, Mr. Gilbert, one of the largest clock-masters in the district, puts up houses for any of his men at the rate of \$700, or £140, for house and lot, a hundred dollars being paid down, and the balance standing on easy terms of interest and repayment. Mr. Gilbert is a rich man, who likes this kind of investment, but his practice only gives effect to the principles of New England manufacturers generally. They are convinced that the magic of property makes men at once better citizens and more valuable servants. Hence, where there are no Gilberts, the banks take their places, and no steady operative finds it difficult to build a house, while many of them do so without borrowing money. These artisans' dwellings are not only roomy and comfortable, but very attractive in appearance. They have basements of cut stone, surmounted by a tasteful superstructure of wood, a wide veranda, kitchen, parlor, and bedroom on the ground floor and three bedrooms above, besides cupboards and pantries. They are always painted white and adorned

with green jealousies, both these features being as much *de rigueur* as Indian pudding for Sabbath day's breakfast. When these pretty homes, with their clean faces, well-tilled quarter-acre lots and windows aglow with geraniums, are scattered, as in the Mad River and Naugatuck valleys, amid beautiful mountain glens, they suggest that American labor lives in an atmosphere characterized by something which is more than comfort if less than culture. It is time, indeed, to step within doors and see how the Connecticut artisan, whose acquaintance we have already made in the workshop, appears *chez lui*.

Our friend Mr. S—— is an Ansonia mechanic who occupies the ground floor of his own house, which is considerably larger than the single houses already described, and lets the upper part to a fellow-operative. His pretty cottage looks, upwards, to the wooded slopes of the Green Mountain range; downwards, upon the river Naugatuck, with its blue, lake-like mill-ponds, and surrounding factories, from whose distant chimneys arises nothing worse than white puffs of steam. We found his wife and daughter reading on the veranda, and were welcomed by them with a manner charmingly compounded of simplicity, independence, and the wish to please. Within was a pleasant sitting-room, furnished with all the comforts and some of the luxuries of life. The tables were strewn with books. For musical instruments there was the American organ, while some pretty photographs adorned the walls. No refreshment was offered us, for they drink nothing in temperate New England, and no one eats between the regular meal-hours.

The conversation fell on American history and particularly on the period just prior to the War of Independence. If it was delightful to find ample knowledge and critical appreciation of the men and events of that stirring time, it was touching to learn in what respect the heroes of the Revolution are held by all native Americans. Mrs. S——, for example, regarded it as a real privilege to have been born at Concord, and her daughter looked ardently forward to some day seeing the famous North Bridge in that city, where British soldiers first met and recoiled from a handful of militia-men, pulling maiden triggers on behalf of national independence. Thus we spent a most pleasant hour, and when it was time to go, were uncertain which most to admire, the education, the high moral tone, the logical habit of mind, or the readiness to welcome new ideas which characterized the whole family.

Like many other freeholders of the same class, Mr. S—— lets one half his house and lives in the other, his tenant being a German-American mechanic, whose wife only was at home when we called. Well, indeed, does this bright little woman deserve her name of Rosenbaum, for she lives surrounded by flowers, of which she is an ardent lover and successful cultivator. Roses and geraniums

crowded every corner of Mrs. Rosenbaum's room, so that our talk fell naturally on her hobby, which she discussed with great enthusiasm and many smiles. Although the same people, we were no longer the same party as when below stairs. A gleam of Continental brightness shone from the cheery German frau over Yankee seriousness and English phlegm. Her national character had gained independence from American associations, without losing its lighter, pleasure-loving traits. A family of six children lived on this modest flat; but they had all evidently been trained in habits of extreme neatness, for every room, from kitchen to attic, was spotlessly clean and in apple-pie order.

Such are the homes of native American labor and of those foreign workmen who have lived for a long time under native American influences. We shall hereafter find, among immigrant artisans, dwellings and tenants corresponding much more closely than do these to our notions of workmen and workmen's homes. Already, indeed, we foresee that important questions, as to the reciprocal influence of European labor and American ideas, will arise as we proceed, but these we are not yet in a position to discuss. For the present we are content to note that the wave of emigration which has already flooded many American industries, especially the textiles, has not yet risen to great heights in Clockland. There, as in the boot and shoe factories of Massachusetts, the operatives are still, for the most part, genuine Yankees, although their numbers are constantly being diminished by the attractions which the Far West offers to enterprising natures.

A casual acquaintance, who joined us in our Sunday-morning stroll, was himself building a house on one of Mr. Gilbert's lots, having been blown out of his old home some months before by a cyclone. New England is not often visited by these terrific storms, which are common in some western states, but this was a particularly destructive occurrence. The whirlwind descended, in the first instance, over a bare mountain shoulder into the Winsted valley, crossing which, it completely destroyed ten solidly built houses. Then it roared up an opposite hillside, making a clear lane about twenty yards wide and several miles long, through the forest covering of the mountain. Each of the houses in question was lifted completely off the ground, carried forward for several yards and then dropped, becoming instantly converted into a shapeless heap of *débris*. We found a brick chimney lying on the ground in fragments, at least fifty yards distant from the dwelling to which it had belonged. The stoutest beams were shattered, while the staircases and wooden linings of the rooms were thrashed into matchwood. The wrecked roofs were stripped bare of shingles, and even granite foundation-stones were in some cases torn from their beds and tossed hither and

thither. Fences which once crossed the track of the storm had disappeared into space. Trees in its course were twisted short off, and their fractures looked like bundles of slivers. In one remarkable case a piece of pine board, some eight feet long, had struck a large elm tree in its flight through the air. The blow was between a plump and a graze, and the board completely penetrated the bark, in which it remained firmly fixed, with half its length protruding on either side of the elm. Strange to say, no lives were lost in this storm, although all the houses were inhabited, and that of our companion contained nearly a dozen people at the time of the occurrence. The buildings, indeed, seemed to be taken bodily from over the heads of those within and dashed to pieces several yards away from their original sites.

We were late in returning to our hotel for midday dinner, and this, a grave fault on week-days, is, on Sundays, a crime which, if not openly reprimanded, demands some sort of rebuke. Household "help" in America is quite as independent as any other form of labor, and a girl who has bargained either to cook or to wait at table during certain hours of the day resents the tarrying of guests as a breach of contract. Hence a certain acidity in our prim waitress's tone when reciting the simple *ménu*, and a notable increase in the velocity with which the young lady usually slung us our food. We took our punishment penitently, however, for the girl, if petulant, was pretty; but we dared not offer any one of those propitiatory little attentions which would have made an English maid kind to worse culprits than we.

Although the sale of alcoholic liquors is lawful in every state of New England except Maine, "local option" forbids the drink traffic in many towns, and this is the case at Winsted. The Maine liquor law is frequently spoken of in England as if it were peculiar to that state, and is sometimes accused of promoting habits of secret drinking. The first idea is a mistaken one, as the case of Winsted proves, while the baselessness of the second supposition is best understood by mixing with the operatives of New England generally. They, although rarely professed teetotallers, are universally abstainers. Beer is never seen on the tables of the houses where they board, or drank in their own homes. The public-house is hard to find in many New England towns where the sale of liquor is not forbidden, the bar-loafer is a rarity, and it is quite impossible to meet the slattern, so common in our own streets, carrying home her jug of "eleven o'clock."

The voters for "no liquor" are, usually, themselves working men. It is the clock-makers, the scythe-grinders, the axle-smiths and the silk-spinners of Winsted who have closed the public-house, but American mill-owners, storekeepers, and farmers are almost unani-

mously in favor of the temperance ticket, and hold "rum towns" in horror. American operatives are advocates of temperance for a reason which is, unfortunately, of little applicability in Europe. None of them begin life with the expectation of being always mere laborers. All intend to possess a comfortable degree of property and independence. The ascent to better circumstances is open, and they are very few who do not attempt to rise. Even if a man fails himself to escape out of the position of a wage-earner, he has hopes for his children, and is, in the meantime, profoundly convinced that the chances of life are improved almost as much by sobriety as by education. It is his reasonable ambition that makes him the ally of the social reformer, and there is little fear of his trying to evade a law which he believes to be beneficial to him and his. No doubt liquor is sold on the sly in teetotal towns, just as pockets are picked, although thieving is illegal. But offenders against sobriety, in a society bent on the practice of self-restraint, will not be many.

It is easy to bring this conclusion to the test of facts in the state of Massachusetts. Barnstable, one of its counties, has a population of thirty-two thousand people, and no liquor saloons in any of its townships. Here, in a given year, there were only four convictions for drunkenness. The county of Suffolk, on the other hand, has one drinking saloon for every hundred and seventy-five of its inhabitants, and there, in the same year, one man out of every fifty was convicted of intoxication. The case of Sheffield is quite abnormal in New England, but, comparing county with county in the commonwealth of Massachusetts, it appears that the number of public-houses and the prevalence of crime advance almost *pari passu*.

The temperance reformers of Europe have spent much eloquence and based much argument upon the more or less casual and scattered observations of private individuals in endeavoring to determine to what extent intemperance influences the commission of crime. What such advocates require to give force to their conclusions is the strength of facts, collected within given limits of space and time, and collated in a systematic manner. These are furnished in two remarkable reports of the Massachusetts Bureau of Labor Statistics for 1880-1881, which dealt at great length with the relations of crime and intemperance, presenting statistics of a kind which nothing short of a royal commission could procure in this country. It was thus, in the first place, shown that sixty per cent. of all the crimes committed within the limits of the commonwealth of Massachusetts, during a period of twenty years, consisted of "rum offences," drunkenness, illegal liquor dealing, or liquor nuisances. When this fact had been established, the bureau attacked the question of how far drink was concerned in the forty per cent. balance of crime remaining unaccounted for after the first inquiry. The investigation was long,

and, from the nature of the case, a difficult one, but there seems no reason to doubt the accuracy of its very remarkable conclusions. These, in half a dozen words, declare that eighty-four per cent. of all the crime committed in the commonwealth during the twenty-year period in question was caused, either directly or indirectly, by liquor. Only sixteen crimes in every hundred committed by sober men ! Well may the hard-headed statistician lose something of his judicial attitude in the closing words of his report on "Intemperance and Crime." "These figures," says Colonel Wright, "paint a picture, at once faithful and hideous, of the power of rum, and this investigation, by revealing the disproportionate magnitude of offences due, either directly or indirectly, to liquor, calls for earnest attention at the bar of public opinion and by the public conscience of this commonwealth."

The public conscience has already shut up the public-house in hundreds of New England towns. Let those who are sincerely anxious to know what results may be expected from the interference of public option with private privilege spend, as we did, a Sunday at Winsted. The order of this village, the prosperity of its operative population, the peace and purity of their lives, the independence of their characters and simplicity of their manners will be enough to convince any unprejudiced man, abstainer or not, that no greater blessing has befallen this town than the abolition of its liquor saloons.

CHAPTER V.

AMONG THE BERKSHIRE HILLS: GREAT BARRINGTON.

It was a glorious evening when we left Winsted to push our way westward, over the high divide which separates the minor valleys of the Naugatuck and Mad River from that of the grander Housatonic. For the first half of this journey the train labors upwards through a wild country, covered with birch woods and strewn with gneissic boulders, while the reclaimed pastures of scattered mountain-farms skirt the railroad track here and there. At the summit, fourteen hundred feet above sea-level, stands Norfolk, a trim, white town, full of knitting-mills, and surrounded by cultivated land. The last stretches widely on either side of the Blackberry River, a brook near Norfolk, but soon swelling to a considerable stream, which flows westward towards the Housatonic, through a smiling valley of pastures sprinkled with neat farmhouses. The railroad follows the course of this stream, keeping, as usual, upon a terrace of drift which, in this case, is of considerable elevation. Thence the eye wanders down to the sheltered bottoms, where a line of pale green willows, skirting the stream, announces the lagging spring, and up to the birchen crests which hem in this beautiful dell.

Soon after leaving Norfolk we came in sight of the Taconic range, a high and picturesque ridge forming the western boundary of the Housatonic valley. The sun had already declined, and this chain of dome-like hills was clothed in a garment of intense and exquisite blue, which hid every detail of mountain structure and exhibited the range as a silhouette of indigo upon a background of primrose sky. Behind the clear-obscure and enchanting profile of the hills, the misty peaks of the distant Catskills rose in the evening air, reminding us that, between their shadowy slopes and the blue Taconics, the mighty Hudson was sliding to the sea, freighted with the commerce of half a continent. Presently the train whirled closely past one, then another and another flaming iron furnace, while, high above our heads the ashy, birchen crests of the Blackberry Hills were streaked with pale blue smoke wreaths, rising from the scattered fires of charcoal hearths.

After making a junction with the Whiting River, which flows into

it from the north, the Blackberry ceases to be a rapid stream and begins to wind through a level, cultivated plain of considerable extent, one of the intervals of the Housatonic, across which the train runs for several miles before striking the latter river. On the way we passed the little town of Sheffield, an island of houses in a sea of ploughed fields and pastures, shaded by giant elms, and the first settlement ever made in the Housatonic valley. Its site was bought, in 1724, from a famous Indian chief, named Konkepot, for £460 in money, three barrels of cider, and thirty quarts of rum, while the village which arose on the spot was named after Edmund Sheffield, Duke of Buckingham, by Obadiah Noble, the first white settler. This interval crossed, the railroad sweeps by a wide curve into the Housatonic valley, whose course we followed northward, for a few miles, to Great Barrington.

Great Barrington is the chief town of Berkshire, the loveliest county of lovely western Massachusetts, the home at various times of Longfellow, Hawthorne, Holmes, Neville, and Thoreau, and the theme of Bryant's most melodious song. Nowhere does the Housatonic traverse such beautiful scenery as in its course through the Berkshire Hills. Here, along its western borders, lie the chief domes of the Taconic range, which rise to heights of two and three thousand feet, concealing their massiveness by flowing outlines and aerial draperies of heavenly blue. Eastwards, the world is shut out by the Hoosacs, a long spur of the Green Mountains, whose summits have hitherto been hidden from us in the narrower valleys. Each of these ranges is but one of the many undulations constituting the Alleghanies, which rise like waves from the Atlantic slope and break towards the west. Along the trough of such an earth-billow the river and the railroad thread their way together, the curves of the landscape on one side of the cars being those of a rocky wave, which has, so to speak, passed under the track and is travelling westward, while crags and precipices, on the other side, represent the breaking crests of another undulation advancing from the eastward. Northwards, spanning the valley and bounding the view in that direction, the twin peaks of Greylock rise majestically, three thousand five hundred feet, into the air. These form part of the Greylock range, which connects the Hoosacs with the Taconics about the head-waters of the river, making a grand figurehead for the county of Berkshire.

"Come from the steeps where look majestic forth,
From their twin thrones, the giants of the north,
On the huge shapes that, crouching at their knees,
Stretch their broad shoulders, rough with shaggy trees.
Through the wide waste of ether, not in vain,
Their softened gaze shall reach our distant plain;
There, while the mourner turns his aching eyes
On the blue mounds that print the bluer skies,

Nature shall whisper that the fading view
Of nightliest grief may wear a heavenly hue."

Within this mountain valley lie cradled fat, grassy bottoms and wide terraces of fertile soil, whence frequent villages and the scattered homes of wealth and refinement look down upon the silver stream, or up to the blue hills that fence this Arcadia from the world. Nor is manufacturing industry absent from the Housatonic, which turns the wheels of woollen and paper mills throughout its whole length.

Great Barrington enjoys the distinction of being the place where England's right to tax her American colonies was first disputed. July the sixth, 1774, was signalized in the county of Berkshire by the meeting of sixty delegates, duly elected by various townships, for the purpose of "considering the acts of the British Parliament, made with a view to the raising of a revenue in America." This convention unanimously repudiated the rights which England claimed, and urged the colonies to unite in a policy of "non-consumption," whereby, while British goods were rigorously excluded, nothing would be done that was "hostile, traitorous, or contrary to our allegiance due to the king." When, a few weeks later, the royal assent was given to bills reaffirming the powers of England and imposing the obnoxious taxes, the dissatisfaction of Berkshire found expression in an act of actual contumacy. The 16th of August, 1774, was the day and Great Barrington the place appointed for the session of the King's Court of Common Pleas. Early in the morning a body of men, assembling from all parts of the county, took possession of the court-house, filling it to overflowing and effectually preventing the transaction of any business. The people, in fact, refused to acknowledge the judges' authority, and insisted on their leaving the town.

Nor did the patriotism of Berkshire exhaust itself in the resolutions of a convention and demonstrations against the king's court, but busied itself forthwith in raising regiments and making warlike preparations for the hostilities which were felt to be impending. And when, just a year after the event described, "the embattled farmers" first "fired the shot heard round the world," it was Berkshire that caught its earliest echoes. The news of Lexington, fought on August 19th, was at once borne by swift horsemen to every town in New England. It reached the county about noon on the 20th, and by sunrise of the 21st Colonel Patterson's regiment, of which the Great Barrington minute-men formed a part, was marching, equipped, armed, and, for the most part, in uniform, to join in the coming struggle for national independence.

The town, as I have said, is agricultural rather than industrial in character, while farming has been, so to speak, upon its trial for a long time past in New England. The country of the Pilgrim Fathers is unfavorable to agriculture. Its hilly and often mountainous surface, its hard rocks, bristling forests, and scanty soils offer a field to the plough very different from that of the treeless plains and deep loams of the Middle and Western States. To till the "stern and rock-bound" coasts of Massachusetts Bay was a task for the stout arms and iron wills of its first settlers, and would never have been attempted, even by them, if the great natural meadows of America had been open then, as they are now, to every emigrant. With the entry of the West, indeed, upon the agricultural stage of the world, farming in New England, as in Old England, assumed a new character. It was no longer possible for either country to grow the traditionally "important crops" to the same advantage as before. A change of front became inevitable, and is now in progress, both here and there.

Hence the apparent decay in agricultural interests, illustrations of which meet one at every turn in Massachusetts. We saw mountain farms, in the neighborhood of Winsted, going begging for customers at a tenth of their original cost, and found a dwindling population in all agricultural towns remote from the markets furnished by manufacturing centres. Rather more than half the towns in this very county of Berkshire, for example, have lost fourteen per cent. of their inhabitants since 1865; while in Middlesex, the second farming county in the state, one town in every five has parted with three fourths of its people during the same period.

Notwithstanding all which, the agriculture of New England, speaking generally, is not on the decline. The farmer has given up raising barley, wheat, oats, and potatoes in the same quantities as formerly, but the place of these crops has been more than filled by an increase in the production of milk, eggs, table vegetables, and small fruits. These, indeed, are now the important crops of Massachusetts. Twelve times as many eggs and forty times as much milk are produced in this state than was the case thirty years ago, while the increase in such crops as beets, carrots, beans, cranberries, onions, and turnips is almost equally great. The total value of the farm produce of Massachusetts has, indeed, increased by nearly twenty per cent. within ten years, a fact which dispels any gloomy visions that might be conjured up by empty farms around Winsted and elsewhere.

New England has, none the less, passed through an agricultural crisis, and if she has been spared an "agricultural depression," that is because the Yankee farmer is a schemer of the same kind, although not in the same degree, as the Connecticut man. Driven from the

cultivation of the so-called important crops, he soon discovered others of even greater value, and turned the wants of the manufacturing towns to good account in his efforts at self-help. It is in curious contrast with this versatility on the part of the American freeholding farmer that our own tenant farmers have, during the last twenty years, let a trade in butter, eggs, and poultry, worth twenty millions sterling per annum, slip into the hands of the French and the Dutch.

It goes without saying that the New England farmer is a totally different person from the highly characterized Englishman, with whom most of us have tramped the September stubbles, and some of us have dined, drunk brandy-and-water, and smoked a "churchwarden" at market tables. The former is always, in the first place, a proprietor. Tenancy for rent is practically unknown in America, although men sometimes "let" some of their land upon the "metayer," or share of profit, system. The farms are always small. In Massachusetts, for example, more than half of them are between twenty and a hundred acres in extent, the greater part of the remaining half are even smaller, while there are very few properties containing more than three hundred acres. For every four of these farms, again, there are but three laborers, so that we have here a state of things differing in every respect as widely as possible from that tripartite agricultural economy, whose ideal perfection was first discovered by Lord Beaconsfield. But whatever the theoretical advantages possessed by the English triad of squire, farmer, and laborer, it is beyond all question that the American combination of freeholder, husbandman, and help in one man stimulates energy and develops ingenuity in a very remarkable manner.

Our friend Mr. Wheeler, for example, a descendant of Captain Truman Wheeler, one of the Great Barrington minute-men of 1775, is a modest land-owner and farmer, living in the near neighborhood of his ancestral town, and an excellent type of his class. Plain in his dress, which is that of a citizen, distinguished by some *je ne sais quoi* of the soil, simple in manner and direct in speech, he seems at once an agriculturist, a merchant, and a public man. But, being a farmer, an Englishman thinks him most distinguished by that extreme readiness to entertain and consider new ideas, which is, perhaps, the most notable feature of New England character.

The strength of America, in Mr. Wheeler's opinion, lies chiefly in the farmer class. The love of the homestead is a passion which, united with only moderate prosperity, gives birth to a patriotism such as neither the great mill-owner, on the one hand, nor the well-paid operative, on the other, can possibly feel. But this love of the land is accompanied by no corresponding dislike of trade and manufacture, which the American land-owner encourages to the utmost

of his power and treats with the highest respect. Indeed, since competition with the West has compelled the change of face in New England farming of which I have already spoken, Mr. Wheeler's chief customers for dairy produce and table vegetables are the operatives of the Housatonic valley. Employing scarcely any labor himself, he has no quarrel with factory rates of wages, but is keenly alive to the advantage of a well-to-do and numerous *clientèle*. New England farmers are all advocates for well-paid labor, which they have, curiously enough, been brought to look upon as the result of a protectionist policy. They do not yet understand, what I hope will become clear when we come to discuss the tariff by and by, that American rates of wages are determined by agriculture instead of manufacture, by free trade and not by protection. That the American operative should credit his exceptionally high wages to the "protection of labor" is not at all surprising, but it is astonishing to find the intelligent American farmer, who himself really determines the wages rates of the country, sharing the same delusive belief.

Returning from Mr. Wheeler's farm to Great Barrington, we crossed the Housatonic by a wide bridge, one of those remarkably skilful, if not æsthetic, structures so common in the States, which still bear the name of "Howe" trusses, in memory of the clever Connecticut carpenter who first devised these simple but scientific wooden girders. There is a story told about this bridge by Dr. Dwight, the chronicler of the New England of the last century, which is as remarkable as it is well authenticated. "A Mr. Van Rensselaer, a young gentleman from Albany, came one evening into an inn, kept by Mr. Root, just at the eastern end of the bridge. The innkeeper, who knew him, asked him where he had crossed the river. He answered, 'On the bridge.' Mr. Root replied that that was impossible, because it had been raised that very day, and that not a plank had yet been relaid upon it. Mr. Van Rensselaer said this could not be true, because his horse had come over it without difficulty or reluctance; that the night was, indeed, so profoundly dark as to prevent him from seeing anything distinctly, but that it was incredible, if his horse could see sufficiently well to keep his footing anywhere, that he should not discern the danger, and impossible for him to pass the bridge in that condition. Each went to bed dissatisfied, neither believing the story of the other. In the morning, Mr. Van Rensselaer went, at the solicitation of his host, to view the bridge, and, finding it a naked frame, gazed a moment with astonishment, and then fainted."

My companion, who had lately purchased a building site of singular and romantic beauty, lying upon the Housatonic River, desired, on our return, to refer to his title, thus giving me an oppor-

tunity of seeing how the transfer of real estate is managed in New England. Entering the town-hall, we found a lady, the daughter of the town clerk, in charge of the land registration office, and in one of her big books the required document was found in a few moments. It consisted of a very short deed, describing the boundaries of the fifteen acres in question, and containing a contract to sell and to buy the same, the whole being couched in perfectly simple language. Every transfer and mortgage of real estate is recorded in this succinct way in the register of each township. This contains a complete, intelligible, and easily accessible history of local land-ownership, running back to the first purchases made by settlers from the original Indian proprietors. The fee for such registration is one dollar, and so easily can the validity of titles be ascertained under this system, that intelligent men frequently, as in the present instance, buy and sell land just as they would the crops upon it, without the intervention of a lawyer and, therefore, without expense.

That a lady should be the transcriber and custodian of the Great Barrington land register is not a remarkable thing, but that we should have been able to transact a piece of important business, in a public office, with so much ease and despatch, and receive so much polite assistance and prompt attention as fell, it seemed quite naturally, to our lot, struck me as noteworthy. It is indeed difficult for Englishmen to realize how truly the public offices of America are placed at the service of the people. One seems to do officials an actual kindness, whether in town halls or state bureaux, by asking questions, or requesting references to public documents. Certainly, in the present instance, nothing could be more agreeable than the quarter of an hour of pleasant and instructive chat about the affairs of her native town, to which I was made welcome by the custodian of its land records, while my companion was making his notes.

Leaving the town-hall, we took "supper," or "high tea," as we should call it, in one of the modest little white houses, whose appearance I have already endeavored to bring before the reader. This was the residence of Mrs. Whiting, a widow, and of her two daughters, all old friends and the latter old school-fellows of my companion. We were a pleasant party of six, and a merrier group could scarcely have been gathered around a simpler table. The last might have satisfied a Savarin, although a mayonnaise of salmon, buckwheat cakes hot from the stove, maple syrup, and cranberry pies were its chief delicacies. The girls were a charming combination of good sense and gayety, humorists by the grace of God and women of affairs by the force of circumstances and education. How brightly the talk hovered! now over the affairs of the day, men and books; then over the recollections of school life, to alight gently,

sometimes, on personal gossip. But when matters of deeper interest asked attention, we found the whole party distinguished by a habit of forming independent judgments and a power of incisive expression, such as one never meets with among irresponsible, because unemployed, women.

For this, too, was a home of industry, supported entirely by the earnings of its two daughters, of whom one was a compositor and the other a storekeeper's clerk. In the trim little white house there was no servant, the dainty meal we sat down to was cooked, the table set and cleared, by the deft hands of our entertainers themselves. Yet there hung no shadow of a shade of *mauvaise honte* over their bright, frank faces, and they were, indeed, happily incapable of understanding that any social disabilities could follow the fact that they earned an honorable living by the practice of respectable handicrafts.

Strangely enough, as we should think, these same New-Englanders, who see no shame in labor, have a pride of birth which, although of a different character, is more intense than any existing in Europe. Fifty years ago there was a strong and deeply seated prejudice, lurking everywhere in the New England mind, against the cultivation, in any degree, of ancestral or family history. It was regarded as a breach of good taste, if not an offence against morality, to speak of an ancestor with anything approaching interest. This sentiment was rooted in those fundamental ideas of equality which underlie all American institutions, and so great was the fear of seeming proud or self-important, that men agreed in pronouncing it honorable to be ignorant of their origin. This feeling, however, was not absolutely universal, even at the period in question. More than half a century ago an octogenarian New-Englander, one of whose ancestors had been concerned, even to the employment of force, in checking the tyranny of Andros's colonial government, said to another distinguished man, "The time will come, sir, when it will be accounted honorable to have descended from the men who settled this country."

His prophecy has already been fulfilled. In the autumn of 1844 a little knot of antiquarians, living at Boston, determined on the establishment of the "New England Historic-Genealogical Society." This, within the next twenty-five years, became an important institution, and has now a handsome home in the city, a library of sixty thousand volumes, members to the number of a thousand, an income of \$4000, and a property of some \$40,000. Its influence upon the state of public opinion has been most remarkable. The first number of its journal appeared in 1847, prior to which date only thirty-two family pedigrees had ever been printed in America, and these, for the most part, were limited in extent and inferior in character.

Since the year 1847 more than seven hundred genealogies have been printed, of which by far the greater number were produced in New England, while the histories of some two hundred New England towns have been published by subscribers to, or readers of, the society's register. The magazine itself contains historical outlines of more than five hundred English families and more than a thousand genealogies.

No other publication has ever, anywhere, occupied the same field, or undertaken the same work, and, probably, there is no other people besides the Americans whose family history, for two hundred and fifty odd years, is so fully woven into its public and private records. It lives in the notes of a periodical press, reaching back through a hundred and seventy years, in the ample archives of towns and schools, in the registered titles of landed property, in the corporations of Church and State, and in the prolific correspondence of a social and intelligent people. The whole fabric of New England life is sketched in the pages of the *Historic-Genealogical Journal*, and exhibited in a way which, if fragmentary, is truthful and lifelike. With these early letters, papers, and minutely detailed public records in hand, it needs little enthusiasm and only a moderate fancy to transport one's self into the very heart of the colonial times. We see, again, the patriarchs of the country walk in their quiet streets, we sit at their frugal board, ponder their profound theologies, and marvel at the spectacle of religious zeal combining with the love of liberty to work out, by their mutual action and reaction, the great problems of human freedom and religious toleration.

But it is not in the publications of this society alone that the new love of family lore finds expression. Private individuals have caught the infection, and the study of genealogy has become a passion. Every man investigates his ancestry, and hundreds of pedigrees have been printed for private circulation. Some of these are works of extraordinary extent and completeness, the most remarkable of them all being a history of the Whitney family of Connecticut, and the "Wentworth Genealogy." The former is probably the most sumptuous work of the kind ever issued, occupying three quarto volumes of a thousand pages each, and leaving no wisp of the "great cloud of Whitneyses," covering the space between 1649 and 1878, unexamined. Dr. Wentworth's Genealogy extends over three volumes, of seven hundred pages each, and has cost no less than \$40,000 in its compilation.

The culture of family history in Europe is limited, almost entirely, to fixing the inheritance either of honorable titles or landed estates, but the genealogist of New England knows nothing of the former, and, since the possession of land confers no distinction in America,

only incidentally chronicles the latter. He has, indeed, a higher aim than to flaunt his titled ancestry or "blue blood" in the face of the world. The great quartos already alluded to record the births, marriages, and deaths of many Wentworths and Whitneys who held very humble positions in life, and who yet illustrated the family virtues by conduct. The fervent desire of every New-Englander is to trace his lineage to one among the handful of God-fearing and courageous men who first colonized America. He cares little to go back further than the two hundred and fifty years which embrace the history of America, and rarely seeks to lengthen his pedigree by research in England, content if he has sprung from the virtuous fathers of his own country.

With all this in our minds and on our lips, we called next day, after the "high tea" already mentioned, to say good-bye to our friend Miss Ruth Whiting. We found her at "case," in the newspaper office, in the neatest of dresses and most becoming of high aprons, and left her laughing gayly at the interest with which I took the following notes from a volume of the *Historic-Genealogical Society's Journal* to which she was able to refer us.

The name of Whiting is one of the oldest in New England, and our fair compositor is easily traced back, through steps which might be tedious to recapitulate, to the Rev. Sydney Whiting, an English clergyman, who married, in 1629, the daughter of Sir Oliver St. John, Chief Justice of the Court of Common Pleas in the time of our Commonwealth. Sydney Whiting and his wife went to America in 1636, where he became minister of Lynn, Massachusetts. His wife was great-granddaughter of Oliver St. John, Baron Beauchamp, who, upon the coming of his third cousin, Queen Elizabeth, to the throne, was created Lord St. John of Bletsoe. Through her ancestress, Margaret Beauchamp, grandmother of Henry VII., she was descended from Gundred, fourth daughter of William the Conqueror, who married William de Warren, first Earl of Surrey. Through her ancestress, Joan Plantagenet, who married Gilbert le Clair, Earl of Gloucester, and her ancestress, Matilda of Scotland, wife of Henry I. of England and niece of Edgar Atheling, she was descended from Alfred the Great; and through her ancestress, Maud, wife of William the Conqueror and daughter of Baldwin, seventh Count of Flanders, she was descended from Lewis the Fair and Charles the Bald of France, and from Charlemagne, Emperor of the West, and Hildegarde of Swabia, his wife.

Next to the honor of entertaining angels unawares must rank that of taking tea with unbeknown princesses, and this, it seems, is what happened to us under the modest roof of a clerk and compositor in Great Barrington.

CHAPTER VI.

COMMON SCHOOLS.—A TOWN MEETING.

THERE was no prettier sight in Great Barrington than that of the scholars trooping gayly along the streets to the common and high schools of the town. This crowd of boys and girls, of all ages from five to eighteen, white and colored, clean as new pins, and neatly, not to say expensively, dressed, gladdened our eyes each morning as we sat at breakfast in the Berkshire House. Watching it, I began to see that equality is no fiction in New England, and to understand whence it is born and how bred.

Every child in the town attends either the common or high school, according as its studies are more or less advanced. Here, boys and girls sit together, learn together, and play together, and hence they walk home in friendly groups, no one having an opportunity to think him or herself better than others. For children are born democrats, and only become aristocrats by education. The words, "low" and "high" have no meaning for little boys and girls, and cannot gain one in schools where every one receives the same training, and all are expected to behave kindly and politely.

The headmaster of the high school made us welcome to sit in his class-room for a couple of hours, while the ordinary work of the school was proceeding. A mixed class of boys and girls, from fifteen to eighteen years of age, were "reciting" a lesson in physics, which had previously been learned at home, but the teaching of this subject, like that of science in schools generally, was machine-like, facts occupying the place of principles, and fogginess of mind resulting where illumination was sought. The translation of Caesar, which followed, was, however, well done, the girls especially shining in classics as much as they had proved dull in science.

Adjourning, after a time, to the common school, about whose relation to the high school more hereafter, we found a very bright and earnest young lady teaching geography to a large mixed class of children, and scarcely knew which to admire most, the lively, interesting method of teaching, or the strict yet gentle discipline of the teacher. Then we listened while a "plant lesson" was given, and this exercise, although treated as a recreation, was a really scientific

bit of work. A common groundsel plant, a sheet of paper, and a pencil was given to every child in the class, and it was then explained how the essential parts of a plant consist of roots, stems, leaves, and flowers; the functions of these organs were explained and illustrated on the blackboard, reference being made all the while to the specimens in the children's hands. Finally, each scholar was told to draw a plant diagrammatically on the paper and to write down ten words, descriptive of organ or function, which had been used by the teacher in the course of the lesson. The result was extraordinary. Some stupid children, of course, failed to get any ideas at all from the exercise, but the great majority succeeded in satisfactorily grasping such elementary principles of physiological botany as it was the teacher's aim to convey. The lesson only occupied half an hour, the demonstrations being very succinct as well as lucid, but more real knowledge was conveyed, and the mental powers of the children were more strengthened, during that thirty minutes than if they had committed to memory whole pages of a text-book on botany.

The American theory of free public education is summed up in the dictum of Washington, that the virtue and intelligence of the people are the two indispensable securities of republican institutions. "Hence," says Horace Mann, "the minimum of education can never be less than such as is sufficient to qualify each citizen for the civil and social duties he will have to discharge; such an education as teaches the individual the great laws of health, as qualifies for the performance of parental duties, as is indispensable for the civil functions of a witness or juror, as is necessary for a voter in municipal and national affairs, and, finally, as is required for the faithful and conscientious discharge of all those duties which devolve upon the inheritor of a portion of the sovereignty of this great republic." For, inasmuch as the sovereignty of the people forms the basis of every American institution, each individual is a part of the sovereign, and participates, equally with every other, in the government of the state. Further, the individual, in a free country, is the best, as he is the only, judge of his own interests, and Society has no right to direct his actions unless his conduct becomes hurtful to her, or until she requires to summon him to her aid. It is not wonderful that the general recognition of principles such as these should have lifted the question of free education to the highest place in early colonial days, or that the common-school system remains one of the capital institutions of the United States.

The "township," a district which may contain one or many towns, according as population is dense or sparse, forms the political unit throughout New England, and stands in precisely the same relation to state government as does the individual to it. By the school

law of Massachusetts every township is bound to provide, at its own expense, a sufficient number of schools for the instruction of all its children of school age in the three R's, the geography and history of the United States, and the practice of good behavior, to which elementary education each school committee may add higher subjects if it think fit. These are the common schools. Every township, again, having more than five hundred householders, must, similarly, provide and maintain a second school, where book-keeping, history, natural philosophy, the civil policy of America, and the Latin language are taught; while, if the township contain four thousand inhabitants, Greek, modern languages, advanced natural science, rhetoric, logic, moral science, and political economy must be added to the curriculum already defined. These are the high schools.

The cost of both common and high schools is borne by local taxation, supplemented by small grants from what is called the state school fund, whose establishment, in 1834, was one of the most important educational measures ever adopted by the commonwealth. Previously to this time, thanks to the jealousy with which Americans guard the principles of local self-government, the schools of various townships were very much isolated, and no one knew what his neighbor was doing. In the consequent absence of wholesome emulation, local parsimony cut down the school appropriations until the public schools seemed in danger of becoming pauperized, and the faith of the people in their value was correspondingly undermined. The creation of the state fund, small as it is, has changed all this. The grant depends, first, on proper annual returns being made to a body called the educational board, and, secondly, on the amount of the local appropriations reserved for school purposes. Although the power of the township over its schools remains absolute, and the state can do no more than regard the progress of education with watchful interest, a general control has thus been established which has proved most beneficial. All material facts and statistics of education are annually made known to the central board, through whose agency every township is kept acquainted with what its neighbors are doing. New ideas, gathered from many quarters, are disseminated by its report; in this way a spirit of emulation between township and township has been generated, and the vivifying influence of intercommunication introduced into the previously isolated school system.

Whatever may be the stimulus afforded by the state fund, the main cost of education is, however, borne by local taxation. The amount of this differs as widely as local ideas of what constitutes an efficient school, but generally in New England, the school tax is about one third of the whole local rating. In the case of Great Barrington, indeed, it is considerably more than this, the school ap-

appropriations for 1883 being no less than \$8500, out of a total taxation of \$19,700.

The schools are managed by a committee, appointed by ballot at the annual "town meeting," of which more hereafter. So far as the law is concerned, school attendance is compulsory throughout New England, but in America "the law is powerless when unsupported by public sentiment," and both truancy and absenteeism are too common in great cities. It is, nevertheless, good evidence of the universality of education in America that it is exceedingly cheap. Notwithstanding the large appropriations already alluded to, the cost of schooling per head is very small. In the high schools, where the teaching is suitable for boys who propose to enter either the university, the professions, or commerce, the expense is about £5 10s. per annum; while in the common schools of the principal cities it is £2 10s. per annum. In rural districts education is cheaper still, costing no more than £1 5s. a head in the manufacturing state of Massachusetts, and scarcely more than 10s. per head per annum in the agricultural state of Illinois. This is one third the sum which our own committee of council allow for the education of an English mechanic or laboring man.

"As with the teacher, so with the pupil," is a maxim whose truth is fully recognized in America, where there are nearly half a million of these public servants controlling two hundred thousand schools and eight millions of scholars. Of their general character it is not for a bird of passage to speak very fully, and I prefer to quote the carefully formed opinions of the Rev. Mr. Fraser, who reported on American schools to our own government some few years ago. "American teachers," he says, "are self-possessed, energetic, and fearless, admirable disciplinarians, firm without severity, patient without weakness; their manner of teaching lively and their illustrations fertile. No class could ever fall asleep in their hands. They are proud of their position and fired with a laudable ambition to maintain the credit of the school; a little too sensitive of blame, and a little too greedy of praise, but a very fine and capable body of workers in a noble cause."

In spite of its being poorly paid, the teaching profession in America occupies a very high place in popular esteem. If the teachers of common schools do not mix as freely in the best society as do our masters of great public schools, that is because of their slender incomes only. The teacher of the humblest district school, on the other hand, occupies a far higher position than the teacher of an elementary school in England. They live in a cheerful and refined frugality, entertaining simply but hospitably, and enjoying a social status very much like that of an English clergyman.

Common and high school life together occupy about thirteen

years, or from the age of five to eighteen; but there are many children, of course, who never enter the high school at all, though their too early absorption into the farm or workshop is regretted by most Americans. The schools are all graded, the scholars passing by a regular series of steps, from the infant, through the common, into the high school, where the system culminates. The high school may or may not fit its pupils for the universities, according as the classical course is taken or omitted, but it can scarcely be said that there is a rung missing in that "ladder from the gutter to the university" which the best friends of education in England are so anxious to see erected here.

The sexes are sometimes separated and sometimes mixed in the high schools, but are almost always mixed in the common schools, and there is some diversity of public opinion upon this question in the States. De Tocqueville's views on this point are well known, and were powerfully expressed. "If I were asked to what cause I think the singular prosperity and growing power of this people should be attributed, I should answer, 'To the superiority of their women,'" and that superiority he traced, in great part, to the common education of the two sexes. No one can fail to recognize the force of character and capacity for affairs of American women, and there can scarcely be a doubt that these qualities are among the fruits of mixed education. Hence, too, the much more business-like relations, so to speak, between men and women in the States than in Europe. Girls and boys understand one another better and appraise each other more justly when educated together than when taught apart. The known is not necessarily "magnificent," like the "unknown," and young men and women who have spent ten or twelve years of school life together meet in the world of active life, in which women take so large a part in the States, without self-consciousness or false modesty.

By the theory of a common-school system, scholars of every rank are received as equals, and in the country districts, especially in such towns as those we have already visited, almost everybody is educated in the public schools. But in the great cities wealthy people generally send their children to private establishments, while the artisan, storekeeper, and farmer are in possession of the common school. The number of academies, however, is comparatively small. There is only one of them for every thirteen public schools in the state of Massachusetts, where only one child in twenty is privately educated.

Religious freedom reigns just as absolutely as social equality in every American public school. It is implicitly forbidden to teach any form of creed whatsoever, and the only religious exercise permitted is the reading of the Bible and an opening prayer. Upon

this matter, as upon that of mixed education, there are, as may be supposed, some differences of opinion among a religious and denominational people like the Americans. And it is, at first sight, remarkable that secular education should prevail throughout a country whose chief corner-stone, to use De Tocqueville's words, is the "spirit of religion." But the second and only other foundation of the national life has been declared by the same authority to be "the spirit of liberty," and it is certain that no stable institution whatever can be built on these two bases if it is to rest at all unequally upon them. The patriarchs of America were religious in the last degree, but they loved their narrow creeds less than freedom. Hence the common school is secular in its character, although the men who founded it were enthusiastic theologians; and there are happily, as yet, no signs that the fabric of free education in America is likely to be inclined either this way by fanaticism or that by license.

The object of education in America is not so much the production of the learned man, or even the good man, as of the good citizen. "Every American citizen," says Mr. Fraser, "has to play a part in the great arena of public life, which, in other countries, is reserved for the governing class or classes. Hence the extent to which the study of the Constitution of the United States pervades the programme of the schools; hence the continual appeals to support the system on national and patriotic, even more than social and domestic, grounds. As for the school itself, it is a microcosm of American life. There reigns in it the same freedom and equality; the same rapidity of movement and same desire to progress, easily catching at every new idea, ever on the watch for improvements; the same appeals to ambition; the same subordination of the individual to the mass; the same prominence given to utilitarian over pursuits of a refining aim; the same excessive strain on the mental and physical powers; the same feverishness and absence of repose." And the results are very remarkable. The political intelligence of the people is extraordinary. Compare the knowledge and mental activity displayed by a New England farmer or mechanic with that possessed and exhibited by an Englishman of similar social station, and the contrast would be ludicrous. If the benefits of this education are unequally diffused; if the richest neighborhood gets most of them and the poorest least; if the attendance is irregular and the mass of untaught large in the great cities—yet, notwithstanding these hinderances which beset education everywhere, the common-school system of America "is contributing powerfully to the development of a nation, of which it is no flattery or exaggeration to say that it is, if not the most *highly* educated, yet certainly the most *generally* educated and intelligent people on the earth."

The township, as I have said, is the political unit in New England.

This is itself an inferior republic, whose individual members regulate equally every local interest of the community. The legislature of each town is composed, like that of Athens, of all the inhabitants, who may be present personally at a town meeting which is held once in every year. Inhabitaney is obtained either by birth, a vote for the town, the consent of the "selectmen," or the holding of office. The town meeting is held under the chairmanship of a moderator, chosen for the occasion by vote, and its proceedings are recorded by the town clerk. When thus lawfully assembled it has power to make all the orders, rules, and constitutions which concern the common welfare of the town and to determine both the amount and appropriation of the local taxation. It elects all the municipal officers, from the town clerk to the chimney viewer, and chooses the selectmen, who form the executive and serve without remuneration.

These are usually three, and never more than seven in number, and it is their business to expend the public money in accordance with the appropriations made by the town meeting, to see that all the public officers of the town perform their duties faithfully, and, generally, to run the town during their year of office. At the expiration of that time they summon the town once more, and, having submitted a report of their proceedings, hold themselves ready to account to their fellow-citizens for all their deeds, whether of commission or omission, before laying down their authority.

It might easily be supposed that the confusion usually incident to popular meetings would be unfavorable, if not fatal, to a legislature of this kind, and it might, as easily, seem dangerous to intrust the executive with such absolute powers as are delegated to the selectmen. The debates of a town meeting often affect the interests of the inhabitants as importantly as acts of the state legislature, and are generally much more closely interwoven with the public happiness than these. Hence they have been fenced about, and are controlled by very exact rules for insuring strict propriety, and are under the direction of special officers. No person speaks without leave. The person who rises first speaks first, and no one interrupts him. Voting is conducted systematically and with decorum. Any person disturbing the order of proceedings is fined, and, if the offence is flagrant, may be brought before the justices of the peace. All the proceedings of these assemblies are matters of record, and can be re-examined, complained of, and rectified at any subsequent period.

But the chief cause of the propriety which reigns on these occasions resides, probably, less in regulations, however stringent, than in ideas and habits formed in the public schools. Be this how it may, a multitude of important matters, too numerous and unwieldy to be adjusted by the state legislature, are debated and arranged in

these people's parliaments by the very persons who have most interest in and who best understand them. In these schools men become apprenticed to public life and learn how to conduct public business. He who would be listened to, however, in a town meeting, must only speak when he has something to say, and then briefly and modestly, rather than ingeniously and at length. The habitual contributor, on the other hand, of a grain of common-sense or ray of illumination to the discussions of a New England *agora* very soon becomes a marked man. Neither age, wealth, nor self-assertion will be wanted to carry him, sooner or later, into public office, which, in this purer municipal life of America, every man seeks instead of shirking. As to the selectmen, their powers, if enormous, are exercised under checks of unusual efficacy. The very smallness of the executive body encourages honesty and efficiency in no small degree. That a corporation has "no body to be kicked and no soul to be damned" is usually correct in proportion to its dimensions. No member of a committee of three can hide himself behind his fellows when the day of reckoning comes, and he stands before the assembled town to give an account of his stewardship.

And what a meeting it is to face! Farmers and artisans, such as those I have attempted to portray, form the great majority of its members, but all the storekeepers of the town are there as well, the lawyers, who are never absent when politics, municipal or other, are to the fore, and the clergy, of course, for they, in America, have common interests with the laity. A moderator is chosen, and then the town officers are appointed, their names having, probably, been previously agreed upon between the caucuses which direct the action of either political party. The report of the school committee is read, its year's work detailed, and its claims for a liberal appropriation put forward, with the cheerful assurance of those who know they have the entire sympathy of their audience. Next, the jurors are appointed, and after these things have passed smoothly by, the decks are cleared for action, the selectmen's budget, so to speak, is introduced, and burning questions of taxation and expenditure are energetically discussed. Lastly, the accounts for the past year are rendered in the utmost detail and scrutinized with impartial severity. The Great Barrington triumvirate of 1882, for instance, had to explain why Charles Mason got twenty-five cents for taking down a certain image, and Edward Humphry \$6 for the care of tramps. David McGraw, again, had been paid \$285 for his partial support during the year, while the average cost of other poor people had only been \$9 a head, and these abnormal expenditures were all duly accounted for.

But it is over appropriations for highways and bridges that the sharpest engagements generally take place. Then, sometimes, the

storekeepers and farmers take opposite sides upon questions of proposed improvements, which seem to confer unequal benefits upon town and country. When this is the case, there follow debates, often adjourned from day to day, and distinguished by all the sagacity, logical power, and incisive modes of expression which characterize the New-Englander. The scene, under these circumstances, is frequently exciting, and always interesting, especially to strangers. An Englishman, shutting his ears, might think himself in a meeting of his fellow-countrymen, mechanics in their Sunday clothes, with a few genuine Yankee faces scattered here and there. But the same observer, with his ears open, would receive very different impressions. He would hear questions of considerable local importance discussed earnestly, briefly, and sensibly, although in the simplest, and, sometimes, in the most primitive terms; while if the village Hampdens to whom he listens are as provincial in their appearance as in their language, they, none the less, behave like men conscious of their responsibilities and accustomed equally to claim the rights, or abide the restrictions of public speech. Such is a New England town meeting, the purest democratic institution now existing in the world. It was fathered by men whose heart of hearts spoke in proclaiming the equality of man and the sovereignty of the people, and the heads of these patriarchs were in the right place, equally with their hearts, when they made the common school a training-ground for their *agora*.

I am fully aware that this picture of municipal life in New England differs, *toto cælo*, not only from English ideals of local self-government in America, but also from the flagrantly corrupt models which stand for its portrait in too many cities of the United States. But political degradation in America is only another name for the abstinence of her best men from public duties, and their too great devotion to private interests. That nothing can be worse than many city governments in America no one will deny; yet, as the case of Philadelphia proves, the evil is curable if only the real leaders of society will lead. A few years ago Philadelphia was the worst-governed city in the Union. Its "ring" was abler but even more unscrupulous than were the rascals who, under Tweed's leadership, robbed New York, while the fact that it consisted of persons who were ostensibly respectable, instead of open ruffians, only made the case more difficult to deal with. At the time when these men were at the height of their power the municipal government was corrupt from the crown of its head to the sole of its foot, while the ring was strong enough to defy the efforts of the few who strove to bring about a better state of things.

At length the crying needs of the situation themselves gave rise to an organization called the "Citizens' Committee of One Hundred,"

which was formed in 1880. This was composed of business men, whose names were known to the whole city for their honorable connection with leading mercantile houses. Not a single member was a politician or an aspirant for office. Their objects were, to maintain the purity of the ballot, to secure the nomination and election of a better class of candidates for office, to prosecute the misappropriators of public funds, and to promote a public service based upon character and capability only. Their methods were simple and direct in the last degree. They addressed circulars to every voter, giving, in the plainest language, reasons for opposing this candidate and supporting that. Avoiding all general statements, they brought specific charges against each city department which they assailed. They avoided meddling with state or national politics altogether, only asking the voters' aid to reform abuses in the municipality. They formulated a well-considered plan for reorganizing the city government, put it into the form of a bill to go before the state legislature, and pledged legislative candidates to its support. They offered substantial money rewards for information leading to the arrest and punishment of persons guilty of violating the election laws, and, by thus terrorizing ballot-box stuffers and personators, made honest elections possible. Finally, they laid before every voter a clear and simple statement of the cost of good and bad government, showing him, whether a great householder or a mere lodger, how many dollars per annum he personally paid for corruption in the shape of enhanced taxation.

In the space of three years the Philadelphia Committee of One Hundred has utterly destroyed the power of the ring and restored the municipal government of the city, if not to the purity of the New England *agora*, then to that high condition which will become general in the states only when the natural leaders of society seek instead of shirking their public duties.

CHAPTER VII.

PITTSFIELD.—DALTON.—AN INDUSTRIAL PIONEER.

STILL following the valley of the Housatonic, we found ourselves next at Pittsfield, another pretty Berkshire town, of twelve thousand inhabitants, lying in a noble expansion between the Taconic and Green Mountain ranges. Here two branches of the river unite, but their diminished volume evidences that we are now near the head-waters of the stream which we have followed so far. We have risen nearly twelve hundred feet since beginning our journey, and have now reached a plateau whence the surrounding mountains lose much of their grandeur, and give graceful rather than sublime outlines to the landscape.

We had already noticed in several towns that the fashion of surrounding private houses with boundary walls and fences is apparently passing away in New England, and this revolution has been actually accomplished in the best residential streets of Pittsfield. Their villa-like dwellings are set back some distance from the roadway, and occupy a lawn, which is common to them all. This is tastefully planted with ornamental trees, and extends backwards from the road for a considerable distance, dying out in the open country beyond. The public footway, or sidewalk, runs, like a garden-path, through the sward, and is profusely shaded with maples. Nothing can be prettier than the general effect of this arrangement, which gives the idea of a large community of friendly homes, scattered over the surface of a wooded park, while trim figures and bright dresses, moving hither and thither among the trees, or grouped here and there on the grass, lend a Watteau-like air to the picture.

The greater exposure of the house to the public view under this system is producing an excellent effect on domestic architecture in New England. Tasteful dwellings are becoming common where, only a few years ago, nothing was to be seen better than the plain or pretentious wooden structures which the fashion of the moment favored. Fashion in house architecture has changed so often in America that it is easy to recognize a succession of styles, extending from colonial times to the present day. In the former period, for example, the houses of the wealthy were universally large

square buildings, having many windows, an ample columned portico, a wide front door with a shell-shaped fanlight above, and moderately sloping roofs. Afterwards came a sham classic style, lasting from about 1810 to 1820, when the plain citizen tried to make his house look as much like the Parthenon as was possible with pine boards. Later still, the Gothic carpenter was let loose in New England, and he, between 1845 and 1855, tacked crude tracery or sham arches of plank to the windows and gables of every new building. This style is one of the least happy efforts of the American architect. Between 1855 and 1865 a curious rage set in for a box-like house, with a flat, sheet-iron roof, overhanging like a lid, which, if duly provided with hinges, would prove a capital arrangement for any American Devil on Two Sticks. This fashion gave way, about 1865, to an Italian villa style, distinguished by broken surfaces, many roofs, and wide-eaved towers, recalling memories of the Riviera in the prosaic streets of New England. There followed, in 1870, a French house, with mansard roofs, dormer windows, and a profusion of surface ornament, which kept the floor until, finally, our own Queen Anne has won all hearts. The last change appears to have resulted from the pretty buildings erected for the English Commissioners at the Centennial Exhibition, and, as the new style has been cleverly used, and is, structurally, very suitable to wood, of which so many houses are built in the States, it has probably a long and prosperous life before it.

Passing through one of the broadest and shadiest streets in Pittsfield, bordered for the most part with courtly looking old colonial houses, we were shown one which was long the residence of Mr. Appleton, of Boston, and the home where Longfellow found his wife. Here, on the landing of a broad, old-fashioned staircase, stood the "Old Clock on the Stairs," whose philosophic pendulum still ticks a perpetual "Forever—never," to listening life and death, sorrow and mirth, in the poet's song, a song which well describes the kind of house I have tried to picture as typical of the old colonial times:

"Somewhat back from the village street
Stands the old-fashioned country seat,
Across its antique portico
Tall poplar trees their shadows throw,
And from its station in the hall—
An ancient timepiece says to all—
Forever—never!
Never—forever!"

There is another house in Pittsfield having a connection of considerable interest with one of the stirring episodes of the Revolutionary War. We have already seen that the Berkshire folk were, for the most part, enthusiasts on behalf of national independence,

and that the county militia was prompt in its aid of the cause. Colonel James Easton, the commander of this corps, was landlord of a quaint old gambrel-roofed tavern, standing in one of the shadiest streets of Pittsfield, in the year 1775. Here, on the evening of a wild May-day in that year, came Edward Mott, with a band of sixteen Connecticut men, charged by the legislature of that state to attempt the conquest of Fort Ticonderoga, the key of North America, then safely resting in the pocket of Britain. The wind roared in the wide chimney, and the rain dashed in torrents on the lattices of the retired room in which Mott and Easton, with five or six other bold Berkshiremen, held midnight counsel together, shaping the form of this daring expedition.

Before dawn of the next morning these leaders had crossed the Taconic range, and were joined in the romantic Hancock valley—first, by some twenty-four men, under the command of Captain Douglas, and afterwards by two other small parties at Williams-town, all moving under the cover of night. Then began the northward march into Vermont, where the whole expedition was placed under command of the dare-devil Ethan Allen, of New Hampshire fame. He reached the ferry at Ticonderoga on the evening of the 9th, and succeeded in landing eighty men on the opposite shore during the night. At the head of these he marched to the fort, and, having surprised the sentry, paraded his men within, and then proceeded to Captain Laplace's bedchamber and demanded a surrender. "By whose authority?" exclaimed the bewildered commandant, who knew of no enemy with whom Great Britain was at war. "In the name of the Great Jehovah and the Continental Congress," rejoined Allen, his drawn sword pointed at Laplace's unguarded breast. The surprise was complete, and Ticonderoga, with its garrison and stores, surrendered to the Americans.

It was not, however, to recall such events of the Revolutionary War as are connected with the town of Pittsfield that we had travelled to the foot of the Greylock range. Our object was to visit the home and mills of Mr. Zenas Crane, the son of another Zenas Crane, who was the pioneer of paper-making in western Massachusetts.

There were very few manufacturers of any kind settled between the Hudson and Connecticut rivers at the beginning of this century. In the year 1799, however, a young paper-maker, named Crane, started from his brother's factory, in eastern Massachusetts, to prospect for a site on which to establish himself independently in business. Setting out, as usual in those days, on horseback, he rode up through the Connecticut valley, passing by its magnificent water-powers as too vast, and the rapid streams of the eastern Hoosac slopes as too unruly, for his modest purposes. At length, crossing the Hoosac range, our industrial knight-errant found, in

the valley of the upper Housatonic, a locality exactly suited to his ideas, and so, finally, halted at Dalton, then an agricultural village of nine hundred inhabitants, about four miles from Pittsfield. Here, not only was the water-power ample, but easily controlled, and, what was still more important to a paper-maker, extremely pure.

Dalton itself is situated almost in the centre of Berkshire, a county then containing some thirty-five thousand inhabitants; while Albany, the capital of New York State, is only thirty miles away. The combination of suitable water-power with a fairly dense population, from whom rags might be procured, and to whom paper might be sold, determined Crane's choice of the locality, and, two years later, his first little mill was ready for work.

We accordingly find in the *Pittsfield Sun* of February 10, 1801, the following quaint advertisement, one of a kind often occurring in the newspapers of that day, wherever attempts were being made to establish native American manufactures:

"AMERICANS!

Encourage your own Manufactories, and they will Improve.

Ladies, save your RAGS!

As the Subscribers have it in contemplation to erect a PAPER MILL in Dalton, the ensuing Spring, and the business being very beneficial to the community at large, they flatter themselves that they shall meet with due encouragement, and that every woman who has the good of her country and the interests of her own family at large will patronize them, by saving her rags, and sending them to their Manufactory, or to the nearest Storekeeper, for which Subscribers will give a generous price.

HENRY WISWELL,
ZENAS CRANE,
JOHN WILLARD."

Worcester, Feb. 8th, 1801.

Rags, at this time, formed the only raw material for paper-making, and home-made linen was the universal wear. This, unlike the cotton cloth of to-day, lasted for many years, but what little waste there was went always into the family rag-bag. There it accumulated for a long time, Pattison, the tinman, not having yet created the wandering tin-pedler, and the means of communication being very limited.

At the time when Zenas Crane's advertisement first appeared there were only seven post-offices in Berkshire county, and no provision for the distribution of the mails from these centres. People sent for such letters as they expected, until, after a time, some enterprising men undertook the business of "post-riders," carrying the mails, each over a given district, and delivering them from door to door. Scarcely was this system started than newspapers took advantage of it to widen their circulation, and the post-riders, indeed, very soon became pedlers in a small way. The *Pittsfield Sun* thus reached many a housewife living remote from the mill, and she soon began to exchange her rags with the rider for some trifling

household commodities. In this way all the early paper-mills were supplied with their raw material for many years.

"The Old Berkshire," or Pioneer Mill, was a small, two-storied building, whose upper floor was used as a drying loft. Below was a single "vat," and enough of the simple apparatus used in producing hand-made paper to turn out about a hundred pounds of finished work daily. Writing and printing papers were both made, but, chlorine being then unknown, rags were bleached by exposure only, and every batch of paper had its own tint, as one may still remark in turning over a file of very old newspapers.

The first attempts of the Frenchman Didot to produce paper by machinery in the form of an endless web were made in the same year that saw Zenas Crane's settlement on the Housatonic, but many years elapsed before his "Fourdrinier" machine, as it is called, took a practical shape. The old Berkshire mill, indeed, made paper by hand for thirty years after its first establishment, but a cylinder machine was put in about 1831, to be followed, twenty years later, by the Fourdrinier apparatus.

The number of hands employed in the early days of Crane's enterprise was seven; viz., an engine-man, a vat-man, a coucher, all skilled operatives, earning wages of fourteen shillings a week, a lay-boy, who received half a crown a week and his board, and one laborer and two girls, at three shillings a week each and board. Mr. Crane was himself superintendent, and was allowed by his partners to draw thirty-six shillings a week.

Such was manufacturing enterprise, and such, small as they now seem, were wages at the beginning of this century in Massachusetts. The life of the mill was as simple as that of the fields, and the relations between employer and employed those of cordial equality. The mill-owner, indeed, was only a more capable and, perhaps, more self-denying man than his fellow-journeymen, while both being equally the children of liberty and a common education, the first courses of the manufacturing system, now of such vast extent in New England, were raised upon the same democratic foundations as those of the national life. We shall see hereafter what a different state of things prevailed in Europe at the time when its domestic industries gave way to the factory system, and how different was the origin of the latter institution in Europe and America. Hitherto, indeed, our journey has only added proof to proof that the relations between capital and labor in western Massachusetts are still based upon mutual respect and consideration, as in the early days of the old Berkshire mill. Business has expanded, profits have increased, and wages risen enormously since the settlement of Zenas Crane on the upper Housatonic; but master and men are on pretty much the same terms now as they were then, throughout this home of native American labor.

Dalton, like Winsted, is a temperance town, and has, consequently, the same air of prosperity and order as characterizes every place in New England where the sale of alcoholic liquors has been made illegal by the act of the people. Here the descendants of the pioneer paper-maker live in a style that has something almost patriarchal about it, the respective homes of father and sons being scattered about a wide, park-like property, all within hail of each other. The mill-stream has been artistically manipulated, so as to diversify the pretty wooded grounds with artificial lakes and cascades, while the opportunities afforded by bold natural slopes of the ground have been turned to good account by the gardener of the family.

Setting aside the brown-stone uniformities which give the fashionable streets of New York their air of deadly dullness, there are two points which impress an Englishman favorably with American houses. They are almost always built of wood, a material which is very susceptible of artistic treatment, and they are always surrounded by wide, shady verandas, which are simply delightful institutions. These are raised a few feet from the ground, and, being furnished with rocking-chairs, occasional tables, and vases of flowers, make the pleasantest summer lounges imaginable. In the veranda one seems, indeed, to be within the house before the front door is open, while this, again, in the absence of passages, admits the visitors at once into the heart of the home.

The New-Englander is fond of panelled rooms and parquet floors, to which the native woods lend themselves with charming effect, and, being usually a European traveller, he picks up a good many pretty things, both *meubles* and *bric-à-brac*, in his rambles. Houses are always warmed without fires, by means of steam-heated radiators. These are shallow metal boxes, about a yard square, fed with steam from a boiler in the basement. One or more of them, according to the size of the apartment, is placed behind the wainscot, or under the floor of every room and landing, and covered with a sliding *grille* for regulating the temperature. The dwelling is thus kept evenly warm throughout; but the system provides imperfectly for ventilation, and is showing signs of giving way before a thoroughly scientific plan for supplying warmed *fresh* air, now being introduced into some schoolhouses and factories.

Life is agreeably simple and unconventional in New England. Early rising is the rule, and breakfast at eight, dinner at one, and "supper" at six, the programme of meals. These are all unpretentious in character, and, dinner especially, short in duration. Men eat to live, instead of living to eat, and the cuisine, even when most refined, plays only a minor part in hospitality. I suppose there is scarcely a family in all New England where wine or beer is habitually taken, either with or between meals. Men are half ashamed to

drink, and women think themselves disgraced by it. But wine is kept in the house, as we found, even in sober Dalton, where it was quite funny to see our kind host seeking private occasions to gratify my English tastes without indecorum. Books are many and talk plenty in these pleasant homes, and the latter, if sometimes solid, is often very bright, and never prejudiced where it is a question of new ideas. "Do tell!" is a phrase always very near New England lips, but it represents intellectual activity rather than idle curiosity.

A well-to-do New England man prides himself probably less on his house than his "barn," which is no storehouse for crops, but only a stable. Every one owns a buggy and team, and men of moderate wealth keep many horses and drive a great variety of carriages. Among these there is always included a prettily decorated sleigh, for there are three months' snow every year in towns of even less elevation than Dalton. The barn itself is like a great house, specialized for the accommodation of horses and carriages. It has doors, sashes, fittings, a gas and water supply, like those of a dwelling, and it is warmed in the same way by radiators. The stalls, instead of forming integral parts of the building, are independent structures, sheltered, so to speak, by the barn, and fitted with labor-saving appliances for the supply of food and the removal of manure. The men room in a good house, also part of the building, while the great carriage-room, as it must be called, rather than coach-house, is usually decorated with spirited pictures of horses and teams.

Our host's house elbows the paper-mill, on our way to which we passed the works' library. This is a pretty Queen Anne building, handsomely furnished, and containing several thousand volumes. Its upper floor serves for a news and smoking room, while below are the readers. The librarian is one of the mill operatives, a born bibliophile and a very intelligent man, whom, indeed, I at first mistook for a minister or a school-master. Regarding him, the well-dressed readers and the half-luxurious room, one might easily think one's self in some quiet literary club. The habit, common to all American operatives, of washing and dressing after the work of the day is done, gives an air of cleanliness to such rooms as these, and a respectability to their occupants which makes it difficult for an English visitor to realize their operative character.

Free libraries are almost as widely spread as schools in New England. There are nearly two thousand of them, or one to every eight hundred inhabitants, in the state of Massachusetts, and a hundred and nine, or one to every six hundred and twenty people, in this county of Berkshire. At Pittsfield we found a library of seventeen thousand volumes, magnificently housed in marble, and cared for by a staff fully worthy of its splendid charge. At Waterbury, again, we passed without remark, but not without examination, the "Bron-

son Library," containing nearly thirty thousand volumes, and presided over by a most accomplished librarian. Most of these institutions originate in private munificence, which the town meeting is generally ready to supplement liberally, even when prepared to fight "to the bitter end" against some highway or bridge rate.

Thus the Berkshire Athenæum, at Pittsfield, to which reference has already been made, was the gift of a townsman to the town, while the Waterbury library had a similar origin. Silas Bronson, born at Waterbury in 1788, was a farmer, and the son of a farmer, but being of an enterprising disposition, he went South when young, became a merchant and a rich man, dying in New York at eighty years of age. Always mindful of his native town, which owed him, living, many benefits, his will contained a bequest of £50,000 for the founding of a library at Waterbury, "and for the sake of promoting the education and intelligence of this city, in whose well-being I feel great interest, and to encourage and maintain therein that good order and those sound morals which I deem largely dependent on intellectual and moral culture."

Sentiments like these meet us at every turn in New England, and are supported by a practice as liberal as the sentiments themselves. Hence, in a great measure, the wonderful fact that there is only one in every twelve hundred persons born in Massachusetts who is unable to read and write, while four Germans and Scotch, six English, twenty French Canadians, twenty-eight Irish, and thirty-four Italians, out of every hundred immigrants of these nationalities respectively, are illiterates.

But the factory doors are open, a stream of black-coated men and spruce girls is flowing back from dinner to work, and, when in a mill, it is perhaps as well to see what the mill does. Paper, as every one knows, is made of pulped vegetable fibres, which, before the days of machinery, were dipped from a vat by means of shallow frames, covered, like a sieve, with woven wire. The mould, when filled, was skilfully manipulated until the film of pulp was spread evenly over it, being shaken at the same time to facilitate the escape of the water. The size of the mould determined the size of the sheets, and these were removed, or "laid," each on a sheet of felt, and piled in a regular heap. When six quires, or a "post," had accumulated, the pile was put into a screw press, which squeezed out much water and gave cohesion to the paper. The sheets were afterwards separated, pressed a second time, sized and dried in a loft, packed and sent to market.

The Fourdrinier machine, already alluded to, revolutionized paper-making, by accomplishing processes which under the old system occupied three weeks in as many minutes. The pulp from the rag-engine is received in a large vat, furnished with a mechanical stirrer,

which prevents subsidence. From the vat it flows through a cock, whose opening determines the thickness of the paper, into a long trough, where it meets with a quantity of water coming from a source to be presently described. Thence it passes into a vibrating strainer, equally long with the trough, through which the finest pulp only passes, while knots and foreign substances are retained by gratings, as if by a shaking sieve. The fine pulp flows from the strainer in a wide, thin stream, and is caught upon an endless web of gauze wire, which is kept slowly travelling forwards, while it receives a slight, but rapid, lateral shaking. This facilitates the escape of the water, and the felting of the fibres themselves, while the liquid which passes through the wire gauze, being itself charged with the very finest pulp, is caught and returned to the trough already described.

The edges of the paper are formed by two endless india-rubber bands placed above, but travelling with, the wire cloth, and pressing slightly upon it, so as to prevent lateral spreading of the layer of pulp. This becomes gradually, but visibly, drier and more cohesive with every foot of its advance, until the gauze web presently traverses the mouth of a vacuum chamber, from which the air is constantly being pumped. The film is thus sucked, as if by magic, almost dry, while its fibres are rendered cohesive enough to allow of the sheet being picked up by the "wet-rolls," one of which is covered with blanket for this purpose. These rolls give a slight pressure to the pulp film, but are kept wet to prevent its adhesion to the blanket. The newly formed paper now coheres sufficiently to allow of its unsupported delivery by the wet rolls to the "press-rolls"—a pair of solid, smoothly turned iron cylinders of great weight, adjustable by screws. Most of the water is here squeezed out of the sheet, which now passes through a second pair of press-rolls, and then over a series of steam-heated "drying-rolls." Thence it issues, a continuous roll of paper, at the rate of from thirty to fifty feet a minute, or a thousand yards in a day of twenty-four hours. Of the way in which this paper is sized, cut, sorted, and packed, it might perhaps be tedious to speak; suffice it if this description enables the fancy of readers, not technically educated, to accompany the sheet now before their eyes on the journey it once made from the pulp-vat to the drying cylinder, through a train of machinery as beautiful as any that has ever been devised by the mechanic.

The mills at Dalton are closely surrounded by a number of pretty white wooden houses, each standing in its own half-acre plot of land. These have all been built for their hands by the Cranes, and, when not owned by their inmates, are let at something like six per cent. rents. Near them, and forming part of the mill grounds, a little park has been laid out, having shady walks, rustic seats, and appliances

for out-door sports. If Mr. Crane and his sons, representing capital, look down upon this home of labor, that is only because of their own higher perch on the hill, for the descendants of the pioneer are as much the children of equality as their ancestor, and prefer to live among their own people. This, perhaps, is how it came about that our host one afternoon invited us to join him in a friendly visit to a sick operative, who, as he said, "might enjoy a chat with newcomers."

Once again, accordingly, we found ourselves under a roof similar to those which had already received us at Waterbury and Great Barrington, and if we cheered the invalid, his bright home and sensible tongue certainly delighted us. "Have you been able to get out, John?" said our host, as we took up our hats to go. "Why, no, Mr. Zenas; I haven't felt like walking, although this spring air seems to be calling me outside all the time." "Could you manage a little drive if I sent the buggy down for you? The afternoon is warm and sunny yet." "It *would* tempt me to make an effort, and I thank you very much," was the unembarrassed answer to a question most simply, not to say casually, put. Half an hour afterwards, Jim, the free-spoken, liveryless, but excellent coachman, was at John New's door, with as good a team as the barn held, hitched into the same buggy that had brought us from Pittsfield to pretty, peaceful Dalton.

CHAPTER VIII.

A SHAKER VILLAGE.—COMMUNISM.

WE started, a party of four, in the buggy of a Pittsfield friend, one delicious May morning, when spring at last seemed come, to cross the Taconic range and visit the communistic Shaker Society at Mount Lebanon. Two mountain roads traverse the hills between Pittsfield and Lebanon Springs, where there are mineral springs very near the Shaker settlement, much frequented by New England valedudinarians. These steep, rough tracks are hewn through the mantle of birches which clothes the range, fringed with a thick undergrowth of pine and raspberries, and gemmed just now with the white blossoms of the Alpine strawberry. Reaching the summit, after a charming climb, we gained a glorious view of the Catskills, whose serrated profile of faintest blue was scarcely relieved on the bluer sky, while, from our feet, the ground sloped gently down in a succession of grassy slopes, traversed by minor ranges of hills, to the wide valley of the unseen Hudson.

The Taconics form the boundary line between New York and Massachusetts, but the former state originally claimed the Connecticut River for her eastern border, and the dividing line between these two provinces was long the subject of bitter controversy. But while the Dutch settlers of New York, less adventurous farmers than traders, were peopling the banks of the Hudson, they neglected to extend eastward of the Taconic mountains, so that the more enterprising New-Englanders, obtaining possession by occupancy, eventually established a right to this portion of the disputed territory. They pushed, indeed, over the range itself, and, in the attempt to occupy its western flanks, gave occasion for a quarrel which lasted many years and in the course of which blood was shed more than once. The feud was, however, terminated in 1773 by a mutual agreement that the line should be fixed twenty miles east of the Hudson, where it is practically coincident with the ridge of the Taconics. One still observes that the towns upon the river are generally distinguished by Dutch names, such as Staatsburg, Crugers, or Verplanck, while almost every place between the river and the boundary line was christened in English by the early New England settlers.

No Englishman will ever forget his first glimpse of the Lebanon valley. Descending the mountain road,

"You stand suddenly astonished;
You are gladdened unaware;"

as a landscape is gradually disclosed which thrills the English traveller with suggestions of home. The ground has the same gentle curves, and rises, here and there, to the same modest heights as that of a midland shire. There are the same smooth, green fields and trim fences, while clumps of birch and pine, scattered about the hillslopes, recall many a well-known copse and spinney. The very farmhouses are more irregularly disposed, the orchards more systematically planted than is usual in America, while distant villages nestle among the trees, just as they do in Kent.

Presently, threading one of these, we found hard, smooth roads under our wheels, spotless houses, with a broom hanging at every door, on either hand, and such villagers as were not afield sweeping or picking up straws from the highway, which was as clean as a plate. At length we reached Mount Lebanon, the parent and principal Shaker settlement in America, founded in 1787, and, at present, presided over by Elder Frederick Evans, the chief living representative of Shaker theology and polity.

The first thing to strike a visitor is the extraordinary cleanliness of the roads and houses, and the extreme neatness and perfection of the cultivation, whether of fields or orchards. His attention is next claimed by the immense size of the Shaker dwellings, plain, barrack-like buildings of wood, painted white, each capable of accommodating nearly a hundred persons. Lastly, he becomes conscious of a profound and, so to say, sabbatical calm, which enfolds the settlement like an atmosphere and lends an air of worship to every-day life and work.

Each of the great barrack-like buildings contains a commune, or family of from thirty to eighty members, consisting of men and women, with such children as may have been apprenticed to the society. There are seven such communes at Lebanon, and of these the North Family, so called from its position, is the largest. The North House has four bedroom stories, each sleeping-chamber accommodating from four to eight persons, and containing as many beds as it has occupants, washstands, a writing-table, chairs, and a stove for warming in winter. Near the last is a wood-basket, and hanging above this are the fire-irons, a dustpan and brush, and a small broom, aside from which the walls of the apartment are quite bare. The floor is adorned with strips of a pretty carpet, of home-made and sober color, while a mat of similar material lies before every door in the house. These are never fastened down, and are removed daily, for the purpose of sweeping. Everything is in such perfect order and kept so delicately clean that an air of refinement, not to say luxury, seems to pervade these bedchambers, in spite of

their absolute simplicity. A wide hall separates the dormitories of the men from those of the women, but the same description applies, whether to the "sisters'" or "brothers'" apartments. On the ground floor are the kitchen, pantry, storerooms, and common dining-hall, distinguished, like the bedrooms, by perfect simplicity and absolute cleanliness.

Besides these great caravansaries, Mount Lebanon contains a large meeting-house for public worship, stores for the supply of commodities, an immense barn belonging to the North Family, the sisters' or women's workshop, the men's or brothers' workshop, in each of which various industries are carried on, an enormous woodshed, a house for the accommodation of visitors and applicants for admission into the society, a great laundry, a sawmill, gristmill, and the herb or extract house.

The Shakers, unlike some other communistic societies in America, prefer agriculture before manufacture. They have, indeed, given the latter a trial more than once, but find the simple labors and habits of a farming people necessary to the communal life. They cling, however, to one industry, for which they enjoy a very high reputation—namely, the preparation of drugs from vegetable extracts. But the herb-house, if fitted with a steam-engine, evaporating pans, and presses, has nothing of the factory about it. "Brother Alonzo" is the one and only operative in this fragrant workshop, and he is a study. Very tall, thin, and pale, having a high forehead fringed with gray hair, which falls low on his shoulders behind, and a face like one of Perugino's saints, he greeted us with a sweet little smile, and showed us his premises and processes with a soft, simple politeness that seemed hardly of this world. Alonzo Hollister would have been a monk in the Middle Ages and might have sat to Fra Angelico for his most beatific faces. It seemed fitting, in view of the Sunday-like air already alluded to as characteristic of Lebanon, that such a man should be the first Shaker we met. Looking into his face and listening to his conversation, we found no difficulty in realizing that religious communism may have the same attractions for some sweet, sincere, and spiritually minded men to-day as the monastery, whether of the third century or of the Middle Ages, had for similar characters in the past.

Leaving the extract-house, we met Elder Evans, with whom one of our party was well acquainted, and in his company we visited, first, the great barn and then the house of the North Family, which has already been described. Frederick Evans is an Englishman by birth, and was once a laboring lad on a Worcestershire farm. He came to the United States when only twelve years old, and, after trying life in several socialistic communities, joined the Shakers nearly fifty-five years ago. Although without conventional education, he

is a well-informed man, who talks absolute common-sense about every subject except religion, and impresses a new acquaintance with a powerful character, great natural ability, and a strikingly handsome person.

The great barn is quite a notable sight. This large building, nearly three hundred feet long and fifty feet wide, lies on a hillside, with its upper floor level with the main road and the ground floor opening on the fields behind it. Here are stalls for some seventy cows, and, above, are stores of winter forage, artificial manures, and agricultural implements. Every cow has her own stall, and knows it. The herd of handsome Holsteins had just arrived from the pastures and were collected in the yard at the moment of our visit. When the barn doors were opened each cow ran to her stall and thrust her head between a pair of vertical wooden beams, hollowed out to receive the neck. These beams are hinged to the floor and can be opened or closed, all together, by pulling a cord, thus releasing or securing the whole seventy at a stroke. Shaker cleanliness rules as absolutely in the barn as in the house, while the mechanical arrangements for collecting and utilizing all the fertilizer produced are perfect. Indeed, it would be difficult to say too much in favor of Shaker agriculture generally. Even ensilage, the latest farming improvement, has been introduced; while for clean, careful, and successful tillage, the Shakers can hold their own against Lincolnshire itself.

Returning from the barn to the North House, we met many of the brothers and sisters coming home from work. The men were dressed in long, light-blue cloth coats and wide, stiff-brimmed, gray felt hats, beneath which their hair, worn long behind, fell down to their shoulders. The women's costume consists of what, for want of a better word, I must call bags, their shoulders being covered with white capes, and their heads with deep sun-bonnets. All were on their way to the six o'clock evening meal, and, Elder Evans being of our party, we were joined, as we passed through the laundry, by the two sisters in charge, women far past middle life, but whose shining faces spoke more eloquently than words of inward spiritual satisfaction. "I cannot understand," said Sister Annie, "how it is that so few human beings look for their happiness in a life where each is the servant of all. The world which seeks individual pleasure and possession finds less satisfaction than do we in our simple round of duty-doing."

Each family eats in a common dining-room, the men at one table, the women at another, and the apprentices at a third. When all are assembled, they kneel for a moment, and then partake of the simple meal, usually consisting of vegetables only, in silence. There are, of course, no servants, but the housekeeping of a Shaker family is very effectively managed. Six sisters take monthly turns in cooking and six others in washing, while the supplies are given out by

the deaconesses. All rise at half-past four in summer and half-past five in winter, and each person, after dressing and silent prayer, strips his bed and then repairs to work. The house is vacated throughout the day, except by the sisters, who take turns in making beds and sweeping. Breakfast is at six, dinner at twelve, and supper at six; by nine all are in bed and the lights are out. Every evening is occupied by some kind of family meeting. Mondays are given to reading aloud, Tuesdays to singing, Wednesdays to conversation, Thursdays to religious service, Fridays to the practice of new songs and hymns, and Saturday to the prearranged visits of small parties to each other's rooms.

Sunday's service is usually held in the assembly-hall of each family. Here there are no seats, but the Shakers stand in two ranks, the men separated from and facing the women. After singing, the elder makes a short address, the ranks are then broken, and the brothers and sisters, forming separate squares, march round the room to a lively hymn tune, holding their hands before them and making a motion of gathering with their arms—"gathering a blessing." The march becomes a shuffling dance, whose precise and orderly movements are sometimes broken by the whirl of a troubled member to the front, and a subsequent performance like that of a spinning dervish. Now some brother, in spiritual distress, asks for the prayers of the others, or a sister delivers a message from the spirit-world, in which the Shakers firmly believe. Suddenly, at a signal from the elder, the meeting breaks up and every one disperses.

Being celibates, these people use extraordinary precautions in the intercourse of the sexes. It would be tedious to recount the minute regulations which govern the conduct of the Shakers in this regard, but, so far as a mere glimpse can reveal the character of the society, absolute purity of life appears to be the rule at Mount Lebanon. Such impressions as we received on this point were strengthened in no small degree by the fact that one member of our party, a Pittsfield engineer, had spent a great deal of time at Mount Lebanon, sitting houses and workshops with warming and other apparatus, and he thoroughly believed in Shaker purity.

Although the Shakers do not toil severely, aiming to make work a pleasure instead of a pain, they are very prosperous. They number altogether about two thousand five hundred souls, settled in fifty-eight families, on eighteen different spots in the United States, and cultivate nearly fifty thousand acres, besides owning a great deal of land in distant states. Their religion is fantastic rather than fanatical, while themselves are commonplace folks, utilitarian in their ideas, and without any knowledge of, or care for, literature, art, or accomplishments. They are extremely, not to say phenomenally clean, honest in their dealings, humane and charitable in act.

While no one among them is rich or poor, no one greater or less than another, all are secured from the results of misfortune or the advent of old age. They are abstainers from alcoholic liquors, most of them abstainers from meat. They are celibates, but scandal has never arraigned the society; peace-lovers, although many of their young people went to the war; and good citizens, to the extent of observing the laws, paying the taxes, and cultivating well the soil of their country. Lastly, while Shakerism makes a religious service of man's daily life, it at least practises the doctrines of the Mount, and whatever we may think of its mysticism on the one hand, or celibacy on the other, it has created an Eden at Lebanon and peopled it with commonplace saints. As for the fantastic dogmas of its founder, Mother Ann Lee, what need to ransack the rubbish-heap of theology in the vain hope of finding a pearl? Some religious idea or other is, indeed, to be found at the base of all the communal experiments which have ever been tried in America. But these have another and much more important foundation-stone in the deeply seated dissatisfaction which the victims of adversity and oppression, to say nothing of the simply poor or simply thoughtful, feel with the existing constitution of society.

Communism, as every one proclaims, is in the air. "It is the stock boggy of the pulpit, the press, and the platform, wherewith children of a larger growth are scared from peeping into the dark places of our social system. It is the club with which the guardians of society reason, the alias in public opinion of the Parisian petroleuse, a social craze which is diseasing labor and filling the minds of working-men with dreams of an impossible Utopia."*

Well, lighted by the candle of Christian practice, the Shakers have looked into these dark places, and found no boggy there. They have had their little revolution, too, but rebelling against society with churches and ploughs instead of fire and sword, they may well become our allies, although they cannot be our leaders, in the great social battle which seems now everywhere impending.

Hitherto we have been travelling through happy valleys, where capital, the lion, and wages, the lamb—or, if you like it better, reader, where wages, the lion, and capital, the lamb—lie down together in peace; but our next move will carry us to the field of an industrial battle which lasted for nearly fifteen years, and was then only patched by a hollow peace, which may be broken again at any moment. For, if not generally in western Massachusetts, then in most of the industrial cities of America, as in Europe, a counter-current of socialism is undoubtedly setting against the surface drift of our civilization, pressing itself on the attention of thoughtful

* Rev. Heber Newton.

men and being, for the most part, met by an army of Partingtons, defiantly twirling their mops.

What does labor want? What can communism offer it? These were the questions we discussed in the buggy as we reclimbed the Taconic range, and, turning our unwilling eyes from the now purple Catskills, printing the glowing west, dropped down the dusky mountain path towards Pittsfield, while Greylock's peaks, stippled with rose-colored forest, shone upon us from time to time through gaps in the ghostly birch-stems framing our homeward road.

The desire of labor is to work for something besides mere hire, and to enjoy that independence which, next to their lives, men value. We ourselves bend the education of youth so strongly towards the attainment of success in life, and stimulate the desire for wealth and distinction so powerfully, that it is not for us to complain if labor aims at our marks. On the contrary, every thoughtful man must regard with interest any plans which promise to extend the independence now enjoyed by the few to the many.

Energy and economy are indeed able, with some assistance from opportunity, to raise the employed to the rank of employer, and hence the hopes which lighten the otherwise unbearable lot of labor. Take away those hopes, and the operative masses would sink into a condition of discontent, which, blind among the ignorant, would be bitter in proportion to their intelligence among educated workmen, and, in either case, a danger to the state.

But thrift itself, if the spring of hope to a few, is not the day-star of labor. Half the sons of toil regard wage-earning as a fixed condition of society, and the hireling as the enemy of his employer, with whom he accordingly wages war over the profits of industry. Such is the position of the trades-unionist, the legitimate son of the competitive system. Another half, turning from a struggle for existence in which every man's hand is at his brother's throat, and an equitable distribution of common earnings impossible, would make collective property the solution of the social question, and communal life the ideal of man's existence.

The last are, however, confronted with the fact that modern civilization rests upon the institution of private property, and that neither law nor society can conceive of any other order of things. Until our own generation, the ablest students of social science considered the Roman *dominium*, the right of the individual to have and to hold, as a "law of nature," and no one even suspected that the foundations of private property are really laid in common ownership. This, indeed, was already deeply buried in its own ruins when Rome planned the shape and formulated the law of the modern world, and it was reserved for explorers like Laveleye, Nasse, Mayer, and Sir Henry Maine to discover the *débris* of common prop-

erty beneath the first courses of private property. The labors of these men have now, however, established the fact that individualism was everywhere preceded by communism, whose living examples the Slavic *mir*, the Swiss *allmend*, as well as the moribund English *common*, are only survivals of an organism once universally flourishing.

These institutions, like a Shaker village, picture a past when every one had access to the soil, when fellowship lightened the labors of the field, and the commonwealth shared equally in the common store. Such were the conditions of life in the "Golden Age" of collective property, among the family communities of the Middle Ages in Europe; such they remain in the Slavonian village and Swiss forest cantons, and such, in principle, if varied in details to suit an industrial age, are those which the communist seeks to restore.

But the possibilities of communistic living were as powerless to satisfy the average man in the past as they are at Mount Lebanon to-day. Only the simplest or saintliest natures can breathe the atmosphere of a society where nothing stimulates aspiration or fires ambition, and where equal rewards await unequal capacities. Hence, as human nature became virile, individualism asserted itself more and more strongly, until, at length, communism fell into ruin, as savagery itself had previously done upon the development of the family life. Wealth and power were the first-born children of individualism, while material progress and intellectual vigor are its younger sons. To name all its nobler offspring would be to catalogue the achievements of law, literature, science, art, and culture; to blazon the deeds of heroes, the lives of saints, and the deaths of martyrs.

But if man's head is among the stars, his feet are in the gutter. A few live in luxurious ease, while the many toil for wages which approach starvation point whenever trade is dull. Employers and employed, properly friends, quarrel over the division of profits and are always at secret or open war. The law of the market is supreme over the law of the Mount. Charity, masquerading as human-kindness, seeks to redress wrongs inflicted by denials of the law of love. Science seeks new victories among distant worlds, while poverty inhabits a fever den. Culture ennobles the intellect, poetry the emotions, and art the taste of the few, while illiteracy is rampant among the masses. What wonder if, from the squalid-splendid temple of civilization, the cry goes up for a new social contract, for a new saviour of society? What wonder, when the creeds of centuries are cracking all around them, that men, looking for a deliverer, should say, "Lo, he is here," or "Lo, there!" while the Prince of Peace still tarries?

While the few implore, the many menace. German socialism, French communism, Russian nihilism, English trades-unionism, and American discontent mass themselves more and more definitely over against the existing order. No common standard floats, as yet, above the sullen forces of labor, which, indeed, threaten the overthrow before they have planned the reconstruction of society. The proletariat sees its enemy imperfectly, but feels the evils of life very keenly, and, turning angrily upon society at large, declares, with Sam Weller, "Who it is, I don't know; but this I do know, somebody ought to be whopped for this." The question in all men's mouths is, "Who will negotiate a peace with labor before a new terror paralyzes or destroys civilization?"

It might, indeed, at once be said that the peacemaker is at hand, but the metaphors of war, well as they seem to fit some conditions of society, must always fall of application to that which is really a process of evolution. The struggle for existence, whether of organized beings or human institutions, is not, properly speaking, a battle at all. "Force," as Karl Marx says, "is sometimes the *accoucheur* of an old society pregnant with a new one," but there are no lists set in which the new does the old to death. On the contrary, just as the age of invertebrates passed, successively, into that of fishes, reptiles, mammals, and man, so the last, already barbaric, communistic, and competitive by turns, seems about to acquire a new social form. It is a birth and not a battle for which the nineteenth century waits. "What will the new order be?" and not, "Who will save society?" is the true question of the hour.

And it may be discussed without alarm even by timid thinkers. The savage, the family, and the ego have all alike failed to create a stable condition of society, and the *πov στω* of civilization is yet to find. Meanwhile, evolution never looks back. The roads which lead towards the unknown future, whether of life or society, are countless in their direction as well as in their number, but, branch as they may, these never return upon themselves.

Hence, while no one desires a relapse to the condition of primitive man, the communist vainly hopes to restore the golden age of collective property, and the trade-unionist dreams, as vainly, of victories yet to be won by hands over heads. Already, indeed, the age of individualism is passing into that of associated action, and, economically speaking, the change from the old order to the new has begun. Capital co-operates in the joint-stock company. Private property, for its own preservation and increase, is developing into associative property. Co-operative stores, building societies, credit banks, even co-operative manufactures, are springing up with marvellous rapidity in Europe, and begin to make an appearance in America, where, at present, the evils of individualism are but little felt. The im-

ments of these great corporations is a measure of the wealth that is being created and held in common.

But if capital has mastered, more quickly than labor, the lesson that union is wealth as well as strength, it was, none the less, labor that first discovered the principle of co-operation. A few flannel-weavers, cotton-spinners, and shoemakers of Rochdale, who had no means but pence, and no sense but common-sense, had the sagacity, forty years ago, to see that industry, which creates all wealth, can retain its own by taking all who labor with it into partnership. This humble but adventurous band opened its first petty and, as then appeared, absurd store in 1844, and, by that act, became the *accoucheurs* of a new, or the saviours of the old, society, as trust or mistrust may regard the situation. "Who then dreamed that these obscure persons would, in 1872, cause the shopkeepers in every high street of every town in the British empire to cry to members of Parliament, praying to be rescued from the Red Sea of co-operation which threatens to submerge forever all the tawdry chariots of higgling and huxtering?" *

Only a few, even now, dream that this same co-operation, a weakling forty years ago, but a giant to-day, will eventually arrange that in every combination of labor-lender and capital-lender the produce of profit shall be distributed in agreed proportions over all engaged in creating the profit. The difficulties in the way of this are not more serious than those which the Rochdale pioneers of 1844 have already conquered, and the greatest of them is personal interest. Economists, however, declare that prices, profit, and interest are already slowly sinking towards a minimum; or, in other words, that the limits of individual fortunes are gradually narrowing. Great fortunes, it is true, are still accumulated, but the greatest are illegitimate, and one Jay Gould does more mischief to individualism than a whole platform of socialist orators. The shrinkage of interest, again, only indicates the activity of social forces whose resultant will be the abolition of the non-productive classes, the realization of Paul's ideal, "*Qui non laborat, non manducet.*"

But "I have" will not do battle with "we have," although there may be a stage combat between them. As the social change now in question proceeds, "owners of capital," to quote John Stuart Mill "will gradually find it to their advantage, instead of maintaining the struggle with such work-people as are not already absorbed into co-operative associations, to lend to these associations." In this way "existing accumulations of capital might honestly and spontaneously become the joint property of all who participate in their productive employment, a transformation which would be the nearest

* G. J. Holyoake, "History of Co-operation."

approach to social justice and the most beneficial ordering of industrial affairs for the universal good which it is possible at present to foresee."

For co-operation "seeks no plunder, causes no disturbances in society, gives no trouble to statesmen, enters into no secret associations, needs no trades-union to protect its interests, contemplates no violence, subverts no order, envies no dignity, accepts no gift, nor asks for any favor; keeps no terms with the idle and breaks no faith with the industrious. It has its hand in no man's pocket, and does not intend that any hands shall remain long or comfortably in its own. It means self-help, self-dependence, and such share of the common competence as labor shall earn or thought can win." *

As communism, offering an uncongenial home to character, begot competition, with whom justice cannot dwell, so competition is begetting co-operation, in whose kingdom progress will not be accompanied by undeserved poverty. "Each for all," instead of "each for each," will yet be the watchword of industry, and the device, let us hope, for that flag of discontented labor which still wants a motto. The long conflict between capital and labor draws to a close, and the treaty of peace between these old foes will be a deed of industrial partnership. "Beyond all dreams of the golden age will be the splendor, majesty, and happiness of the free peoples when, fulfilling the promise of the ages and the hopes of humanity, they shall have learned how to make equitable distribution among themselves of the fruits of their common labor." †

* G. J. Holyoake, "History of Co-operation."

† Hon. Abram Hewitt, Speech on opening of Brooklyn Bridge.

CHAPTER IX.

NORTH ADAMS.—AN INDUSTRIAL BATTLE.—WILLIAMSTOWN.

"We are ruined by Chinese cheap labor."

LEAVING Pittsfield for North Adams, the most northerly manufacturing town in Massachusetts, the railway soon crosses the watershed of the Housatonic and strikes the sources of the Hoosac River. These have been artificially collected into an immense, lake-like reservoir, the reliance in dry seasons of every mill on this busy stream, which flows northward until it is well behind the Greylock range, around whose feet it wheels towards the west to pour through a gap in the Taconics on its way to the mighty Hudson. The Hoosac is still a baby river when it begins work, and its course is so steep that it runs, so to speak, out of one factory into another, dancing over its boulder-strewn bed whenever the mill-owner lets it out to play.

North Adams, a town of fifteen thousand souls, lies upon the westward sweep of the stream, and seems almost buried among the hills, so closely and steeply is it environed by the spurs of the Greylock range. The mountains assume a very different appearance here to that which they wear at Pittsfield. There the observer stands on the summit of a great swell of land, itself nearly twelve hundred feet high, and whose base extends from the Sound to the St. Lawrence, rising from which, the highest peaks, whether of the Greylock, Taconic, or Hoosac ranges, form mere gracefully flowing lines in the landscape. But at Adams the Hoosac valley is four hundred feet lower than that of the Housatonic at Pittsfield, while the hills themselves, instead of standing remote from the stream, press closely upon it, to the great gain of the scenery in grandeur.

There are many industries in Adams—cotton-mills, print-works, paper-factories, and boot and shoe shops; but it is only the latter which we have come to see. Not that the town is noted for this particular manufacture, but because of the interest attaching to an attempt made here some years ago to introduce Chinese labor into a Massachusetts manufactory. Before telling the story, however, something must be said about American boot and shoe shops, the parents of our own great establishments at Leicester and Northampton.

The making of boots and shoes was one of the earliest, and is one of the most important of American industries. Setting milling and

meat-packing aside, as being agricultural rather than mechanical in their character, boot and shoe making is only surpassed in importance by the cotton, clothing, lumber, and iron and steel industries of the country. Cotton is king in America, as in England, so far as the employment of labor is concerned; but Saint Crispin counts seventy followers for every hundred of King Cotton's subjects. In value of products iron and steel are supreme among American manufactures, but the shoemakers only lack eighteen per cent. of the ironmasters and eight per cent. of the cotton-lords in the money's worth of their goods. Considerably more than half of this immense business, worth in the aggregate nearly forty millions of pounds sterling, is monopolized by the state of Massachusetts, where more than seventy thousand people earn their living by the last, a sixth of this number being centred in one place, the old fishing-village of Lynn, near Boston.

Lynn has been distinguished for this branch of industry almost from the landing of the Pilgrims in 1620. The first English shoemakers to settle there were Philip Kirtland and Edmund Bridges, who arrived in 1635. But they were preceded in Massachusetts by Thomas Beard and Isaac Rickman, passengers in the *Mayflower*, as we learn from a letter to the Deputy-governor of the New England Company, dated London, 1629:

"Thomas Beard, a shoemaker, and Isack Rickman, being both recommended to vs by Mr Symon Whetcombe to receive their dyett and house roome at the charge of the Companie, we have agreed they shall be wth you the Governor, or placed elsewhere, as you shall think good, and receive from you their dyett and lodging for w^h they are to pay, each of them, at the rate of £10 p^r ann^m. The said Thos: Beard hath in the ship, the *May Flower*, divers hydes both for soles and vpp leathers w^h hee intends to make into botes and shoes there in the country."

To return to Lynn. Shoemaking, begun by Kirtland and Bridges in the seventeenth, made great strides in the eighteenth century, under the influence of a Welshman named Adam Dagyr, who, by the excellence of his shoes, soon made this business the most important industry of the town. Lynn was, and still is, essentially a fishing-station, and this circumstance assisted, strangely enough, to determine its industrial destiny. The colonial fisherman, like the colonial housewife, was great at self-help. As she produced all the family homespun, so he made his own watertight boots, and, when his fishing-gear was laid aside for the winter, he took naturally to the last as a source of additional income.

Until within the last thirty years shoes were made entirely by hand, and a shoemaker's shop in Massachusetts consisted of a framed and

shingled shanty, about ten or twelve feet square, containing from four to eight "berths," as the spaces occupied by the workmen were called. The introduction of the pegging-machine was the first step towards the factory system, as the next consisted in the invention of the shuttle sewing-machine, patented by Elias Howe in 1846. By these two machines the production of each operative was enormously increased, and when they were followed by the MacKay stitcher, which sews the soles and uppers together, and thus supersedes the cobbler's awl, a revolution in shoemaking was accomplished. In 1845, while boots and shoes were still made entirely by hand, four hundred and fifty pairs per operative per annum was the Lynn rate of production. Twenty years later, when comparatively few of the mechanical appliances now in use had been introduced, this number rose to six hundred, while in 1875, as at the present time, twelve hundred pairs of shoes per annum constitutes the out-turn for each factory hand.

The shoe factories, whether of Lynn or Adams, are large and handsome buildings, fitted with all the refinements which we found and described in the shops of the Naugatuck valley, and equipped with most ingenious automatic machinery. Beginning at the bottom, or, in other words, with the sole leather, we follow this into a room where it is cut by a system of revolving knives into strips of the required length and width. The strips are sorted for quality, and, after being packed in bundles of sixty pairs each, are carried to the "stock-fitting" room. Here they are run, first, through a splitter, which reduces them to a uniform thickness, and then between a pair of rollers, whose heavy pressure solidifies the leather and accomplishes work formerly done by the lapstone and hammer. The soles are next cut to shape by steel dies pressing upon a wooden block, which rotates in such a manner that each die makes seven hundred cuts before descending for a second time upon the same spot. The outer sole is then successively channelled, or grooved, ready for the MacKay stitcher, moulded, or shaped to the bottom of the last, labelled, numbered, and sent away to await a meeting with the uppers. These, after being stamped, like the soles, from calf or other leather, find their way to a room which is full of sewing-machines, driven by power and attended by women. Here fashion determines how far ornamental stitching shall be carried, and the beautified products are next handed over to the trimmers, who fit them either with elastic sides, buttons and buttonholes, or, assisted by a most ingenious self-acting eyeletting machine, with lace-holes.

Soles and uppers are now ready to meet, which they do in the "bottoming" department. The first operation is called "lasting;" the uppers being placed on a last and tacked to the inner soles, after which the outer soles are added and secured with a few nails, while

the tacks are removed. The boot or shoe is now ready for the Mac. Kay sewing-machine, which stitches five hundred pairs of soles and uppers in a day. Leaving this machine, the "channels" are cemented, and the boot or shoe passed through an apparatus which lays these smoothly over the stitching, subjecting each sole at the same time to an immense pressure, and thus adding to the solidity it has already acquired in passing through the compression rollers.

The goods are now ready for the heels, which, being first drilled, are next "loaded" by hand with the requisite nails, and then fastened to the sole by a single stroke of a machine contrived for this purpose. The heels are shaved by a self-acting knife, their edges trimmed and burnished by one, and those of the soles by another, special tool, after which the bottoms are scoured, first upon revolving sanded rollers and then upon others loaded with fine buffing powder. Lastly, the "waists" are blacked and burnished, the inner soles lined, and bows, trimmings, or tassels added, as required, leaving the goods ready for the packing-case and the market.

As we have already seen, trade-unionism plays but a small part in determining the relations between American employers and native American labor, and that because of the equality which, in New England, always characterized this relationship in the past, and does so still, to a very great extent, especially in Connecticut and western Massachusetts. But, with the growth of the factory system and consequent expansion of business, native labor, whether in the States generally or in New England, has become more and more largely diluted with a foreign element. Of the effects already produced and in course of production by this cause, more hereafter; it will be sufficient for present purposes to say that nearly forty operatives in every hundred employed in the American shoe trade are of alien, chiefly of Irish and French-Canadian, birth. But in the days before the introduction of machinery the shoemaker's shop, especially at Lynn, was thoroughly Yankee in character. The summer fishermen and winter cobblers, if not all descendants of early colonists, were children of the free school, debaters of the town meeting, craftsmen who, for the most part, employed themselves, and, if hired by others, made their own bargain with the employer. To surrender this function into the hands of any trade-society would have seemed to them something more than a loss of freedom, a denial of equality. All this has changed, and the craft is now dominated by the "Crispin" trade-society, the largest and most powerful organization of the kind in America.

About fifteen years ago Mr. Sampson, a North Adams shoe manufacturer, and a shrewd, courageous man, was greatly troubled by certain of his Irish and French-Canadian employees, acting under the orders of the Crispin Society. It was at that time even more difficult

than it is now to equip a factory with American help, but Mr. Sampson was very anxious to engage native operatives, both because of their superior intelligence and independence of trade-societies. The Crispins, however, strongly resented the employment of any man not a member of their guild, boycotting him in the workshop, and making life outside of it so disagreeable, socially, that he was soon glad, for the sake of peace and quiet, to leave North Adams.

Meanwhile, Mr. Sampson's business was brisk, and the concern hard-pressed to fill its orders ; but the Crispins would make no effort to meet the increasing demand, preferring to lose rather than make time, and spending more money than usual in lager-beer saloons or with the "rumsellers." They, further, insisted that the full piece-work price should be paid for work, whether better or worse done by one workman than another, and established a committee of inspection to overlook all rejections, usually insisting in such cases on full payment to the operative. At length they formally demanded that their committee should have access to the books of the concern, for the purpose of fixing rates of wages in accordance with profits. Thereupon, as might be expected, industrial war was declared. Mr. Sampson took a bold line. Discharging every hand in the place, he went at once to San Francisco, and returned with seventy-five Chinamen, whom he established in the factory. These men were taught how to handle the machinery by non-society instructors, who were paid wages of from £5 to £20 a week, as an inducement to risk the vengeance of the old hands. Meanwhile houses were built for the coolies within the walls of the manufactory, so that the men need not appear in the streets, and every precaution was taken against incendiarianism.

The experiment, at first, ended in total failure. Ignorant of the Chinese labor market, Mr. Sampson had brought with him a number of worthless men, natives of Hong Kong and Macao, the latter, in many cases, Portuguese half-breeds. Nothing daunted, he sent more than half of them back to California, retaining only the Cantonese, and commissioning the best five of these to go again to San Francisco and select him a fresh lot. Thus he got together three hundred hands, all good men, and housed them on his own premises. In the course of a very short time the Chinamen learned their business perfectly, and developed so much aptitude for the work that, after a few months, the white help was not missed at all. Their skill in the factory was equalled by their good behavior out of it. Patient, painstaking, and industrious in the mill, they were quiet, sober, and peaceable in their homes. For a long time it was dangerous for them to go into the streets, the more violent Crispins threatening Mr. Sampson's own life, while they made several attempts to burn down the manufactory. These, however, were all frustrated by sleepless vigi-

lance, and after a while the society men, recognizing their complete defeat, began to seek employment elsewhere. Within six months of their arrival the Chinese could move about the town without fear of molestation in the daytime, although they prudently continued to sleep within the factory walls. Thus matters went on for upwards of ten years, during the whole of which time Mr. Sampson's mill was run by means of Chinese labor alone, while other shoe-shops, without following his example, were freed from the domination of the Crispin Society by his act.

At the end of this time, however, Mr. Sampson let his Chinese workmen go. The traders of North Adams never failed, from first to last, to complain that the "heathen Chinee" had hardly any wants. The rumsellers were furious because he drank nothing stronger than tea, while Mr. Sampson's personal friends, prejudiced, like the majority of Americans, against the yellow race, constantly urged his return to the employment of white labor. His position, indeed, became at length something like that of a non-society man in a shop full of Crispins. If not actually boycotted by his acquaintances, they made him, socially, so uncomfortable that he finally gave up his Chinamen for the sake of a peaceful life. They left North Adams with much regret, felt and expressed on both sides, at parting, and are now replaced in the factory, where they lived and worked so long, chiefly by American operatives, few of whom, however, are members of the Crispin organization.

Thus this curious and interesting industrial battle ended in a Pyrrhic victory for the trade-unionist; for, if I may judge from the manner in which Mr. Sampson told me the story, whenever competition without, or domination within, the factory, pushes that gentleman again into a corner, he will brave the rage of rumsellers, the complaints of storekeepers, and even the coolness of his friends, and send for his Chinamen back again.

The persecution of the yellow race is one of the most disappointing facts which the traveller encounters in the United States, whose citizens will quote the Declaration of Independence in support of the equal rights of all men, irrespective of race or color, while denying those rights to the Chinese. But, abstract principles apart, America has formally agreed, in a series of treaties, to extend the same privileges and protection to the Chinese residents in the country as the Americans themselves enjoy in China. Yet, in spite of this, law as well as justice is constantly set at naught when it is a question of Mongol interests.

Prejudice itself cannot deny that the Chinese in America, whether merchants or coolies, are distinguished by qualities which the white races respect, while, class for class, they are their equals in morality and order. The Chinese operative whom, especially, state legisla-

tion, not less than popular violence, outrages, really approaches very nearly to our ideal of a working-man. He is abstemious as to food, a total abstainer from drink, docile, industrious, and painstaking in his work, patient, respectful, and quiet in behavior. He keeps no "Saint Monday," and loses no time during the week ; requires scarcely any supervision, and, if a pipe of opium is his Saturday night's luxury, he is none the worse for it when he leaves the so-called "opium den"—a far more respectable place, as my own eyes have testified, than many a saloon where the whiskey-drinker maddens himself.

Paganism, filth, the depletion of American wealth and the danger of their numerical supremacy are the charges urged, unproved, against the Chinese immigrants ; but the coolie's real and unpardonable offence is that he works for four shillings, while his white equivalent demands a wage of five shillings a day. There is no room for surprise if, under these circumstances, Irish and European, which rather than native American labor is concerned in this matter, should bitterly resent the Mongol competition ; but that which fills every fair-minded man with astonishment is the attitude of both federal and state governments towards a people whose rights America has covenanted to uphold, and whose persons she is bound to protect.

In spite of the treaties whose provisions have been already alluded to, innumerable acts of violence have been done to unoffending Chinamen in California and elsewhere, without a finger being lifted by the law in their defence. On the contrary, legislation has strengthened rather than stayed outrage, by enacting oppressive and, in some cases, unconstitutional laws, solely for the purpose of harring the Chinese. The federal government, on the other hand, under pretence of alarm lest Mongol hordes might swamp, or Mongol manners contaminate, the country, has twice forbidden the immigration of the Chinese, and, if a presidential veto once remedied this legislative tyranny, the prohibition is in full force to-day. As a matter of fact, there is not a public man in America who fears that a hundred thousand poor and peaceful coolies will either dominate or degrade fifty millions of free and intelligent people, and, recognizing the hollowness of the case against these hardly used and helpless Orientals, it causes as much surprise as pain to see the great republic turning its back upon the principles of its own charter and legislating at the bidding of prejudice and violence.

A charming stage ride of four miles, following the Hoosac river past the foot of Greylock, brought me to Williamstown, which peaceful and academical village lies buried, like Adams, among mountains, here enclosing a lovely triangular valley, where the Green River joins the Hoosac in its course to the Hudson. The town is built on a boldly undulating plateau of limestone, which, rising to a considera-

ble height from the lower ground, affords magnificent views of the encircling hills, whose forest-covered crests tower to heights of three and four thousand feet. The valley is wholly settled by farmers; there is not a manufactory and hardly a retail shop in the village, whose pretty white bungalows rise from park-like and elm-shaded stretches of turf, while the undulating main street is bordered at intervals by the halls, chapel, museum, and library of Williams College.

This institution owes its existence to Colonel Ephraim Williams, a New England gentleman, who for many years of the last century led a seafaring life, and, in the course of numerous voyages to Europe, acquired considerable information and a great respect for learning. In the French-Indian campaign of 1744-48, known as King George's war, Colonel Williams greatly distinguished himself, and, after the peace, was appointed commander of a line of forts, which compelled his residence at Fort Massachusetts, standing on the edge of Adams, and a few miles from what is now Williamstown. It was under the protection of this little stronghold that the first settlers occupied the valley already mentioned, which has a splendid soil, and whence the plough has now pushed its way far up the mountain slopes.

Witnessing the efforts and sympathizing with the difficulties of these hardy pioneers, Colonel Williams, who owned considerable land among them, conceived the idea of doing something for the education of their sons. Becoming colonel of a regiment which, in the last French-Indian war of 1755, was operating on Lake George, he, with a scouting party of twelve hundred men, fell into an ambush and was killed. But, while halting at Albany, on his way to this very campaign, he made a will providing for the sale of his property and its application within five years of an established peace to the building of a free school near Fort Massachusetts, provided that, when a township was incorporated there, it should be called after himself. This bequest resulted first in an excellent school, and, afterwards, in the present college of Williamstown, towards whose establishment the Massachusetts legislature, a few years later, granted a lottery—not an unusual thing in those days.

The college buildings are, for the most part, plain and without any academic air, but, spite of a chapel like the conventicle of an English country town, a very unpretentious library, and a number of barrack-like "halls," where the men live, its romantic situation, park-enfolded homes, and peaceful atmosphere place Williamstown easily ahead of every other New England village for beauty.

Sunday morning found me at the college chapel, where some two hundred, out of two hundred and fifty, students were assembled. The service was congregational in form, and, in some respects, a little disappointing. The extempore prayers were too spiritual in their

character, treating this life as a mere preparation for another, and dismissing the question of conduct in favor of vague speculations on the divine influence. The singing, by a choir of students, was crude and inharmonious, and fond English prejudice regretted the absence of academical costume among the students and clerical vestments upon the preacher's rostrum. There was, indeed, nothing "churchy" about the whole thing. The men lounged in their seats and read their papers while waiting for the service to begin, or chatted together as people do before a lecture.

But the sermon, and the intelligent attention it aroused, made ample amends for all this. A more direct and powerful attack on the sins of youth, more prescient picturing of their consequences, more loving dissuasion from the weakness which fathers them, more virile incitement to the strength which resists the devil, I have never heard from any pulpit. The preacher did not mince matters one whit. He called both peccadilloes and greater sins by their names, and if the simplicity of his homely warnings against the "first glass of wine" and the "first cigarette" raised an audible ripple of laughter among his audience, the solemnity with which he specified and denounced worse evils made many thoughtful young faces look stern, and even the thoughtless grave. The whole sermon offered a striking example of that pulpit influence to which New-Englanders attach so much importance as an element in the conduct of life.

Undergraduate life at Williamstown differs materially from that of Oxford or Cambridge. The so-called college is, properly speaking, a university, or place of learning, for there is, as usual in America, no college system. The "halls" in which the students "room" are merely dormitories, where the men sleep and read, but do not eat or drink. They board either in private families or at the neighboring hotel, where they also entertain, instead of in the college rooms or the college dining-hall, as with us. Of college contests and *esprit de corps* there are none; but their places are taken by the bonds and rivalries of certain "secret societies." These are nothing more than students' clubs, which affect a little mystery in their organization, and are distinguished by cryptogramic titles, whose meaning is only known to the members. Thus the letters, A, Δ, Φ, carved on the façade of the meeting-room of one of the largest societies, may possibly signify *αἰ δεινός φαγεῖν* (always terrible eaters), although nothing beyond examples, it is said, supports this view of the case. Some of these clubs are wealthy institutions; old members, who have succeeded in life, delighting to bring liberal offerings to the lares and penates of their college days, so that many of them are now housed in spacious and handsome temples.

The Sabbath evening was still and peaceful, and I sat on the veranda of the hotel, looking, by turns, up to the wooded summits of

Clarksburg, Beacon Hill, and Greylock, already tinged with sunset pink, around upon the white, lawn-bordered homes of farmers and professors, or down the dusky Hoosac valley, where a silver thread of water wound about, and was finally lost sight of in the folds of Taconic's forest robe. In the porch of the "terrible eaters'" lodge, just opposite, a group of students, picturesquely disposed, was singing the evening hymn in harmony, while above the great, gray hills a rising moon hung her silver shield over against the sunset's crimson. Thus the May night fell, lightly as sleep, upon a scene of singular beauty and purity, closing a day made delightful to me by rest from labor and labor-questions, by some pleasant glimpses of American youth, and by the bright anticipations for its manhood to which those glimpses gave rise.

CHAPTER X.

THE HOOSAC TUNNEL.—DEERFIELD.—HOLYOKE.

THE city of Boston, lying upon the eastern edge of the Atlantic slope, is separated from all the states westward of Massachusetts by the successive ridges of the Alleghany chain. This, in colonial days, was a matter of very little consequence, for at that time settled America consisted of only a narrow strip of land bordering the Atlantic; but, with the growth of the country and of commerce, Boston found itself placed at increasing disadvantage from its want of east and west communication.

New York, on the other hand, situated upon the Hudson River, enjoys a scarcely interrupted waterway from the ocean to the Canada line, and a not less easy road to the west. The Hudson is a tidal estuary as far as Albany, and the railroads on its banks are level throughout that distance. Westward of Albany the highest station on the New York Central Railway is not quite nine hundred feet above sea-level, and there are no heavy grades all the way to the great lakes. This results from the fact that, while the trend of the Alleghanies is north and south, the outcrops of its geological formations in New York State run east and west, and the softer of these, having weathered into low valleys, form easy routes whether for the railway or canal which connects New York with Lake Erie.

About seventy years ago the Massachusetts people conceived the idea of constructing a canal from the Hudson over the Berkshire Hills to Boston, in the hope of diverting some of the ever-increasing western traffic from New York. This was to carry a waterway over both the important ranges with which we are now familiar, besides climbing many minor hills resting against their flanks. The Taconics, indeed, offered some convenient gaps in their ramparts to the canal-maker, but the Hoosacs reared a barrier two thousand five hundred feet high directly in his path, while nowhere in the Green Mountain range, of which the Hoosacs are but a spur, from the Sound to the Canada line, could he find a pass lower than fifteen hundred feet above tide-water.

The Massachusetts men were, however, very keen on their canal, and a state commission, appointed in 1825, was courageous enough to report, even in those early days, in favor of a scheme which in-

cluded tunnelling the Hoosac Mountain near North Adams, and a grand system of locks having a total rise of more than three thousand feet. Bold as it was, the plan would have been attempted but for the timely introduction of steam as a locomotive agent. This, while it cured Massachusetts of tunnel fever, set the engineers looking for the easiest grades over the Green Mountain range. In the result, the Boston and Albany Railroad was built, about 1836, and this excellent, if hilly and winding track, served the wants of the commonwealth until 1848, when the desire for an easier east and west route induced a second attack of tunnel fever in Massachusetts. Six years later the state raised a loan of two million dollars for the prosecution of the work, a sum which was more than doubled before the locomotive first threaded the Green Mountains, in 1875.

A steep grade carried us up from Adams to the ragged, schistose mouth of the tunnel, nine hundred feet above sea-level, and, after fifteen minutes of darkness, our train issued into the valley of the Deerfield at a point whence the bed of this stream offers an easy descent to the Connecticut River. This spot is so obviously the best in the whole range for the tunnel to enter the mountain, that, when the great undertaking was still under debate in the Massachusetts Legislature, General Hoyt, one of the canal commissioners of 1825, won the hearty cheers of the House by declaring that the finger of Providence had itself pointed out exactly where the Hoosac Mountain should be pierced. "It would have saved the state considerable money," said a member, continuing the discussion, "if Providence had pushed his finger through."

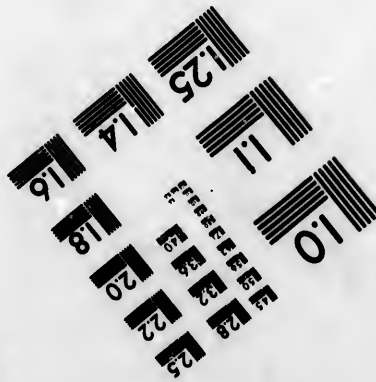
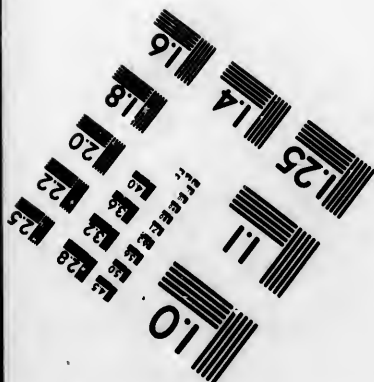
The Deerfield River occupies one of the most beautiful mountain valleys in New England, its bright brown waters leaping rapidly down through the earlier part of their course between steep, rocky walls, which are densely clothed with birch and maple forests. After a few miles its flanks become less precipitous, but the stream remains swift, while scattered houses and patches of cultivation begin to appear as the valley widens. At Shelburne Falls the river throws itself headlong over a high limestone ledge, and here, for a time, takes on the peculiar and romantic character which frequently distinguishes the passage of mountain streams through crystalline calcareous rocks. The scenery at this point is extremely beautiful. The clear, rushing water is closely bordered by a dense and varied foliage, just now painted with the tenderest of spring tints. Through occasional gaps in this greenery, the traveller, flying down the steep grades, catches momentary glimpses of the Deerfield, now pouring in gathered volume through narrow channels of limestone, then spreading widely and smilingly over broad, bowldery reaches, bordered by fields and isolated farmhouses. Arrived at the town of Deerfield, the valley opens widely, its now gentle slopes being thick-





Resolution test chart showing patterns of vertical and horizontal lines with numerical values ranging from 1.0 to 2.5.

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ly covered with fertile drift soils, where the plough is busy as we pass. Flatter and more extensive grow the rich river-bottoms, until these merge at length into the vast alluvial plains of the Connecticut River itself.

The position of Deerfield made it, oftener than any other New England village, a scene, in colonial times, of those bloody tragedies which characterized the terrible French-Indian wars of the last century. This long series of encounters which, beginning towards the close of the seventeenth century, only ended with the capture of Quebec in 1759, were far worse in their effect upon the colonists than any of the earlier and more desultory struggles in which they were engaged with the red man. They were, in reality, fought against the French, who had succeeded in obtaining the help of the native warriors in the contest then in progress between England and France, for supremacy in the New World. No open battles took place during this hundred years' war, the Indians trusting chiefly to surprises and night attacks. A lonely family or the inhabitants of a remote village were always liable to be awakened from sleep by the war-whoop, or, if the redskins attacked by day, they waited until the men were asleep, and then fell upon the defenceless women and children.

It was in the winter of 1704 that a party of three hundred French and Indians, under the command of the infamous De Rouville, marching down from Canada for the purpose, fell upon Deerfield one February morning, a little before daybreak. Colonel Schuyler, of Albany, had warned the people, some months before, that an expedition was being planned against them, and they had accordingly built a barricade around their houses and kept a nightly watch. But, on the morning in question, the sentinel had fallen asleep before dawn, and the unhappy villagers were first aroused by Indian yells. One party of redskins forced its way into the house of the Rev. John Williams, a minister, who, five years before, had made a successful resistance to a similar but less important attack. Him, his wife and family, they seized and bound, killing two of his children before his eyes, and plundering his house of every valuable. Meanwhile, the larger body of assailants fired the town, but not before the tomahawk and scalping-knife had done their deadly work in almost every house.

Mr. Williams, his wife, and five remaining children, together with some hundred other captives, were then loaded with the plunder and driven before their enemies northwards towards Canada. Their route lay over the Green Mountain range, deeply buried in snow, and covered with the primeval forest, which, in many places, was scarcely penetrable by man; and, day by day, as one or another of the wretched party, heavily laden and almost naked, fell from

hunger or exhaustion, he was despatched by the redskins. Seventeen persons, among whom was Mr. Williams's wife, were thus tomahawked, and other two died of hunger.

Upon his arrival in Quebec Mr. Williams was, however, humanely treated by the French authorities, and, at the end of two years, was redeemed from captivity. Returning again to Deerfield, the eleven following years of his life were years of warfare. The village was frequently alarmed and harassed, although it never again suffered so comprehensive a disaster, and the war, after a time, drifted away elsewhere. One of Mr. Williams's children, a daughter, seven years old at the time of the attack, never returned to her family, the Indians having adopted her as their child, and no efforts, whether of the government or individuals, could prevail on them to give her up. She was afterwards married to a chief, and one of her grandchildren, educated among whites, became a missionary to the Oneida tribe.

Such was one among a thousand incidents of a similar character attending the struggle which terminated in the fall of Greater France and the rise of Greater Britain in America. Petty as its bloody details seem in comparison with the great eighteenth-century wars between France and England, of which Europe was the scene, beside the struggles of Clive and Duplex in India, or of Montcalm and Wolfe on the plains of Quebec, all were alike results of the fact that, whatever the ostensible cause of their quarrel, and whether they crossed swords in Europe, Asia, or America, France and England, for the hundred years preceding the peace of Paris, were really competing for a prize of incalculable value, the possession of the New World.

The valley of the Connecticut, or "long river" of the Indians, which we have now fairly entered, differs altogether from the rock-bound glens of the Naugatuck and Housatonic rivers. Its stream has the same north and south course, but, instead of swiftly threading mountain glens excavated in primitive rocks, it flows, except where hurried by falls, in a wide, slow stream, over rocks of triassic age, which rise upon either side into an indefinite succession of plains and undulations.

The valley varies from five to forty-five miles in width, having the Lyme range, which merges, farther north, into the White Mountains, upon the east, and a succession of trap-hills, which, going north, give way to the Green Mountains, on the west. It is characterized throughout its whole length of four hundred miles by a succession of expansions, or lake-like basins, sometimes fifty miles long and half as wide, sometimes of much smaller dimensions, all of which are united by narrow intervening glens. The flanks of these expansions consist of terraced "intervalles," or river flats, con-

sisting of fertile alluvial soil. These were laid down by the river itself during the "Champlain Period" of American geologists, concerning which more hereafter, and their regular outlines lend great beauty to the scenery, while their elevated and level surfaces offer strikingly picturesque sites for towns.

The course of the river through these soft alluvial deposits is characterized by bold and nearly uniform curves. Its banks are ornamented with a fringe of fine trees and shrubs, while the intervals themselves are, for the most part, meadows. Almost any crop, however, can be grown in their kindly loams, and hence the long stretches of grass are frequently broken by fields, exhibiting all the varied productions of a genial climate and prolific soil. Meanwhile, the annual floods forbid fences in the lower bottoms, so that grass, corn, tobacco, orchard, and forest divide these into great parallelograms, whose mathematical outlines alone suggest the hand of man in a scene where Nature herself seems to have turned farmer.

The city of Holyoke, containing nearly twenty-two thousand inhabitants, is, in some respects, the most remarkable town in the state of Massachusetts. It was brought into existence some thirty-four years ago by the construction of a great dam across the Connecticut River, probably the holdest enterprise of this kind ever undertaken in America. Around the water-power thus obtained, which aggregates the force of thirty thousand horses, manufactories have sprung up with marvellous rapidity, while population, whose average rate of increase in Massachusetts generally is eighteen per cent. per decade, has doubled itself in Holyoke within the last ten years.

The city is, however, chiefly remarkable for the extent of its foreign population. About half the people of Massachusetts are of American, and half of alien birth, but eighty out of every hundred men, women, and children in Holyoke are of foreign extraction. The prevailing nationality is French-Canadian, people of whom we have hitherto seen nothing, but who, beginning to emigrate about twelve years ago, are now occupying one industrial centre after another in New England, even to the displacement of the Irish, who are already second in number to the French in Holyoke.

Our route, up to the present time, has, designedly, led us through such manufacturing towns as are distinctively American in character, using this term in the sense assigned to it before we commenced our journey. We have seen the descendants of the early colonists, the children of liberty and equality, suckled upon Puritan tradition, weaned in the free school, attaining manhood in the town-meeting, and experience in the exercise of public duties. We have

followed them into the workshop, where, standing upon an admitted equality with their employers, the men who have not yet saved money make an unfettered bargain for their services with men who have; basing the contract, by mutual consent, upon a comfortable and even refined ideal of operative life. We have entered these workmen's homes, talked with their wives and children, eaten, although we have not drunk, with them, and noted their relations with their employers. We have visited the employer as well, and found his factory no money-mill, and himself no absentee, but "head of the concern" in the same sense that the brain dominates a harmoniously working organization. Later on, we glanced for a moment at trades-unionism, attacking capital on the one hand, and the old equality between employer and employed on the other, and watched the origin, progress, and fortunes of a strange and interesting industrial battle. We have now to follow a route where we shall find the conditions of labor approximating sensibly to those of Europe, and the question whether those conditions will ultimately dominate American industry or be themselves raised to native American standards is one that will hang long, if not altogether, in the balance.

Meanwhile, let us take a glance at the great dam of Holyoke and the cotton, woollen, and paper mills which have sprung up around it. The Connecticut River is nearly a third of a mile wide at Holyoke, upon whose site, before that city came into existence, occurred the falls of South Hadley, rapids having a descent of sixty feet, over which, until the year 1848, six thousand cubic feet of water, the equivalent of thirty thousand horse-power, ran to waste every second. In that year a small party of Boston adventurers incorporated themselves as the "Hadley Falls Company," with a capital of \$4,000,000, "for the purpose of constructing and maintaining a dam across the Connecticut River, and one or more locks and canals, and of creating water-power to be used for manufacturing purposes," etc. Twelve months later this work was completed, but scarcely were the sluice-gates, which had given passage to the stream during the construction of the dam, closed, than the whole structure was swept away by the rising river.

Nothing daunted, the company, in the following year, built the present dam, which is a triumph of skill in the control of a magnificent natural power. Its length is one thousand and seventeen feet, or nearly one fifth of a mile, and its appearance that of an apron of massive timber-work, inclined towards the stream at a gentle slope, over whose upper edge the river flows. This wooden apron protects the dam proper, consisting of a ramp of masonry, having a base of a hundred feet, and rising forty feet above the bed of the river. During the construction of the dam the stream was allowed to escape through

some fifty sluice-gates, each about twenty feet square, and these, when the work was completed, were closed, for the first time, about noon of October 22, 1849. Thousands of spectators watched with eager interest the river creeping slowly upwards to the lip of the new work, and gathering into a broad lake behind it, until the water, finally, slid in a thin sheet down the slopes of the timber apron, when the cheers of the crowd went up exultingly. The dam has, since then, supported the weight of the greatest freshet ever known on the Connecticut River, while the evenness of the thin fluid film flowing over its crest is good evidence that no settlement has occurred or is in progress.

But the company's work did not terminate with the building of the great dam. The fall acquired was sufficiently high to permit of its being divided, so to speak, into three stories. Three grand canals, each occupying a different level, were accordingly dug, and, of these, two send broad, parallel watercourses a distance of two and a half, and one and a half miles respectively, through the very centre of the city, while the third skirts the Connecticut River. The mills on the upper level have a head of twenty feet, and their waste water passes into the second canal. Those upon this channel, and others upon the third, have a head of twelve feet, the mill-tails discharging into number three level in one case, and into the river in the other. From any of the numerous bridges which carry the city streets across these handsome canals the eye takes in a long stretch of water-way, and if a rosy sunset dyes, or the full moon whitens, the clear stream, only the great, but by no means ugly, buildings on its banks notify the manufacturing town to the spectator. The air is pure, the sky is azure; there, to the left, is the grand Connecticut River, a wide, silver lake above, a mad rapid below, the great dam. Under his feet slips a shining thread of water, which, reflecting the waning sun or waxing moon, is none the less beautiful, *pace* Mr. Ruskin, because human genius, unravelling it from the greater strand twisted by Nature herself from rain-drops fallen on the flanks of the "long river," has therewith made a stitch or two in the harness which links the intellect and energy of man to the car of material progress.

Like other salable commodities, water-power has its own unit of measurement, called a "mill-power," equal to thirty-eight cubic feet of water drawn in every second from a head of twenty feet, and the equivalent of sixty-five horse-powers. When a site for a factory has been taken from the company, who, it is understood, own all the lands adjacent to their water privileges, the requisite number of mill-powers is conveyed to the occupant by an indenture of perpetual lease. The annual rental is three hundred dollars per mill-power, or something under twenty shillings per horse-power per

annum, being less than a fourth the cost of the most economical form of steam-power.

Cheapness of motive energy is the corner-stone of all the factories in Holyoke. These consist chiefly of cotton, woollen, and paper mills, which, built in recent years, and for the purpose of using a predetermined amount of power, are little like the collections of unrelated and ramshackle buildings too often typical of a manufacturing district. Externally, there is some architectural dignity about all the Holyoke mills, and this is enhanced by their situation on the banks of wide and well-built canals. Internally, they are fitted with those appliances for safety, convenience, and even comfort which form a marked feature of the New England factory. I do not, however, propose to enter any one of these hives, for most people are familiar with textile processes; and, coming in contact here, for the first time, with French faces and the French tongue in the streets of an American city, curiosity is excited less by the mills than by the mill-hands.

"Achetez vos hardes, faites à la maison populaire de Montague et Adams, 185, Rue High; nous parlons tous français." Such was the first of many similar philological gems which I found conspicuously posted on the blank walls and gables of Franco-American Holyoke. That Americans as well as Frenchmen are addressed by this advertisement I gathered from its subjoined translation. "Clothing, hats, and fixings at Montague & Adams, 185 High Street." The presumably Norman Montague and undoubtedly Yankee Adams have succeeded, the one with Latin ornament, the other with Saxon simplicity, in symbolizing the city of their adoption by a single poste. Holyoke is evidently a town of Frenchmen first and Americans afterwards, and both are of the class that wears ready-made clothes.

Pleasure, like business, addresses its clients with two tongues in this curious Franco-American town. Thus, "M. le Professeur Bartholomew" announces the arrival of his "*Chevaux de Manège, Le Paraadox Equine*, visité pendant plus que trois mois à Boston par 121,209 de son peuple le plus cultivé. Patronisé partout, par cette classe des personnes trouvé au theatre sur des occasions speciaux seulement." And, afterwards, as follows: "*Professor Bartholomew's Educated Horses, The Equine Paraadox, [sic]* visited during a three months' stay in Boston by 121,209 of its most cultivated people. Patronized everywhere by a class of people found at the theatre only on very special occasions." Aside from its delicious incongruity, which never startles in America, the home of incongruity, how oddly it reads, this appeal of the Yankee showman, the companion, though not the child of puritanical ideas, from the evils of the stage, addressed to Frenchmen!

The Canadian French were recently described, in a grave state

paper,* as "the Chinese of the Eastern States." They care nothing for our institutions, civil, political, or educational. They do not come to make a home among us, to dwell with us as citizens and so become a part of us; but their purpose is merely to sojourn a few years as aliens, touching us only at a single point, that of work, and when they have gathered out of us what will satisfy their end, to get them away to whence they came and bestow it there. They are a horde of industrial invaders, not a stream of stable settlers. Voting, with all that it implies, they care nothing about. Rarely does one of them become naturalized. They will not send their children to school if they can help it, but endeavor to crowd them into the mills at the earliest possible age. When, at length, they are cornered by the school-officers and there is no escape, often they scabble together what few things they have and move away to some place where, being unknown, they hope to escape the schools entirely and keep the children at work right on in the mills. And when, as is indeed sometimes the case, any of them are so situated that they cannot escape at all, then the stolid indifference of the children wears out the teacher with what seems an idle task.

"These people have one good trait. They are indefatigable workers, and docile. All they ask is to be set to work, and they care little who rules them, or how they are ruled. To earn all they can, by no matter how many hours of toil; to live in the most beggarly way, so that out of their earnings they may spend as little as possible; and to carry out of the country what they can thus save, this is the aim of the Canadian French in our factory districts. Incidentally they must have some amusements, and, so far as the males are concerned, drinking, smoking, and lounging constitute the sum of these."

These sweeping statements had scarcely issued from the Labor Bureau before they were met by earnest denials from the Canadian French of New England, who, at various public meetings, passed resolutions of so vigorous and condemnatory a character that these, reaching the state legislature, were referred by it to the bureau for an answer. In the result, a public hearing of the French in their own cause was appointed, but we need not follow this inquiry beyond the point where it enables us to get a good view of the problem I am anxious to elucidate, and which I will here restate. Are the old labor conditions of America beginning to approximate to those of Europe, and, if so, what influences are at work to prevent this lapse?

The Canadian "habitant," as he is seen at home, is a peasant proprietor, farming a few acres, living parsimoniously, marrying early,

* Thirteenth Annual Report of the Massachusetts Labor Bureau, 1882.

and producing a large family, who, if they would not sink into penury, must either subdue the distant and stubborn forests of the inclement North, or become factory operatives in the States. They are a simple, kindly, pious, and cheerful folk, with few wants, less energy, and no ambition; well-mannered and well-conducted, but ignorant and credulous; the children of a Church which teaches satisfaction rather than dissatisfaction with an humble lot, and devoted to the priest, who is their oracle, friend, and guide in all the relations of life. Such are the people, a complete contrast in every respect with Americans, who began, only twelve years ago, to emigrate to the industrial centres of New England, seeking employment in the mills. They came, not only intending to return to their own country after having saved money enough to buy a patch of cleared land, but expressly enjoined by the Church to do so. Employers of labor, however, soon found out the value of the new-comers, and Yankee superintendents preferred them as operatives before any other nationality, not only on account of their tireless industry and docility, but because they accepted low wages without grumbling, and kept themselves clear of trade organizations. Hence it was not long before the mill-owners themselves began to organize the Canadian immigration, appointing agents to procure French labor, and importing, sometimes, as many as fifty families at once into a town.

Thus it has come about that nearly seventy per cent. of the cotton operatives of Holyoke are of French-Canadian origin, a fact which obtrudes itself on the notice of visitors in a variety of ways. The streets are, every evening, crowded with French faces, and resound with the French tongue. "Ici on parle Français" appears in most of the shop windows. Groups of male loungers laugh and smoke at every street corner. The billiard and beer saloons are full of noisy players and drinkers. Girls, less trim and less demure than those we have hitherto seen, but smarter far than any Lancashire mill-hands, trip, by twos and threes, from shop to shop, or greet passing friends with gay French phrases. The general behavior is, however, most decorous, even a social observer's eye failing to detect any signs of immorality. By ten o'clock, indeed, the busy street life is hushed, and, half an hour after, Holyoke is as quiet as a country village.

Passing from the main thoroughfares of the city into the streets where labor resides, we at once became conscious of a great contrast with similar quarters in the industrial towns of western Massachusetts and Connecticut. The Water-Power Company owns not only all the ground available for mills, but much besides. Hence, land is dear, and tenement-houses the rule. These consist of great blocks, five stories high, constructed in "flats," and inhabited by many families. They are built by the mill-owners, who charge twenty-five

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shillings a month for each suite of rooms, a rent which yields only a moderate interest upon an outlay undertaken for the sake of conveniencing labor.

Fresh from the white cottage-homes and green gardens of the Dalton operatives, and still almost in view of the charming school-children of Great Barrington, what was our surprise and disappointment at the first view of a French-Canadian quarter! A narrow, unclean street, gloomy by reason of the great brick barracks on its either side, was resonant with the shrill voices of children playing, so to speak, in the gutters. Almost every boy and girl was bare-legged and bare-footed, rags were by no means scarce, while the dirt of hands, feet, and faces was such as bespeaks no daily wash. The open windows of every flat offered glimpses of bare and grimy interiors, overcrowded with slovenly people, either "pigging together" at supper, or leaning, untidy and idle, over the window-sills. Turning from a scene whose outward appearance spoke, if not of the worst, yet of very low conditions of life, we sought another street, only to meet with the same experience, while the question, "What does all this portend for the future of labor in America?" sprang into instant and peremptory existence in our minds.

The average number of persons living in each house in the state of Massachusetts is rather more than six, but the number of inmates sheltered under one roof in such typical American towns as Dalton and Great Barrington is only five and a half. The average size of the family, again, in each of these towns, as in New England generally, is four and three quarter persons, so that almost every family in Dalton and Great Barrington lives under its own roof-tree. In Holyoke, on the other hand, the average number of inhabitants per house is eleven; in other words, there is only one dwelling for every two families in this city. Now, bearing in mind that the French, although the dominating nationality, form less than a fourth of the total population of Holyoke, we realize how these people herd in learning that their presence, to the number of five thousand, among twenty-two thousand men, women, and children, has doubled the average rate of inhabitaney of the whole town.

Overcrowding is not the only evil which threatens the condition of American labor in Holyoke. Illiteracy characterizes the French operatives almost equally with herding, and is more difficult to deal with in their case than in that of many other immigrant races. Aside from the barrier which a strange tongue places between French children and American schools, the Canadian is a good Catholic, and very loyal to his Church. The priest, on the other hand, is not less anxious for the religious teaching of the youth than for the growth and prosperity of the expatriated flock under his charge. Hence, instead of making use of the common school, that root of

good citizenship, equally with intelligence, these two bend all their energies to the establishment of "parochial schools," which, however they may benefit the cause of the Church, will certainly do little for education, in the American sense of the word.

I purpose, as I have already said, no critical examination of the Canadian question, or any attempt to estimate the value of the French reply to the indictment against them which I have already quoted. It is sufficient for my purpose to show that operative life in Holyoke is a very different thing from what it is in western Massachusetts, and a sad lapse from American ideals. That employers should desire to obtain help which is at once satisfactory and cheap is much the same thing as their being anxious to buy good cotton at low rates, and might pass without remark in any country except America. But American equality has only one ideal of life, and to be an intelligent and a good citizen is as necessary for the poor as for the rich man in a state where, by the theory of the Constitution, each individual is a factor in the sovereignty of the people. Hence it is with a feeling of alarm that the European observer sees the dignity of labor down in the very dust at Holyoke, and asks, "Does no one concern himself about a state of things that would have shocked all America thirty years ago, and been quite impossible half a century back?"

More than one cheering answer is, however, at hand. The very report from which I have quoted, hardly as it deals with French-Canadian character, is no denunciation of these people, no cry, such as that raised against the Chinese, for disability or dismissal. On the contrary, it is an appeal and a warning to the American people. This new flood of alien immigrants, having many excellent qualities, but without ideals, ambitions, or any due sense of the dignity of labor, is sweeping, not into the great West, where conflict with nature regenerates character, but into high-souled and intelligent New England, the home of pure and enlightened democracy, the very heart of America. There the new-comers are congregating in the same mills whose operatives, New England's own children, were, forty years ago, the wonder and admiration of Europe. Herding in crowded tenement-houses, slovenly, ragged, and dirty, the French operatives of Holyoke seem to eat, drink, and breed, without a thought of any higher life, save, perhaps, that of which the priest tells them on the Sabbath. It is nothing less than a social revolution which has occurred in the American dominions of King Cotton since Harriet Martineau and Charles Dickens told the world what the inner life of the Lowell factories was like.

But the state cries aloud, by the very report in question, to the consciences of the American people, reminding them of their principles, and calling for the aid of all patriotic souls in turning this mud-

dy, but manageable stream of toil into the channels of education, nationalization, and public duty. Nor is the school less active in the same cause. The merry street crowds were at their thickest one evening in Holyoke, when, attracted by the sounds of singing, I entered the handsome city-hall, where the common-school children of the town were holding their annual musical festival. An immense orchestra, filled with nearly four hundred boys and girls, occupied one end of the room, which was crowded with an audience of a thousand people, respectable, well-dressed, and well-behaved mill-hands, the parents and relatives of the little performers on the stage. Although admission was free, there was not a shabby or noisy person present, and the gathering had that remarkable air of independence which always strikes an Englishman as a most characteristic feature of an American crowd. Scattered among the choir, the acute but genial faces of many a school-master and "school-marm" shone upon the children. Grave, and gray-headed, but kindly looking-men and women, some of these, whose very gravity bespoke their sense of serving an important cause. And there were younger teachers, too, bright, trim girls, who kept order, where order seemed to keep itself, by the magic which is a secret of the American common school.

I don't know who more enjoyed the songs and choruses, the singers or their audience; but I do know that, for me, haunted by after-images of the squalor I had just witnessed, it was beyond measure inspiring to see the quick uprise of the well-dressed and well-drilled rows of children, to hear their trained voices pealing joyously forth, and to watch the well-pleased faces of their listening fathers and mothers. I went out, when it was all over, into the pure, moonlit air of a perfect May night, and watched the crowd of happy parents and happier children, parting, group from group, with laughter and kindly farewells. They, I felt sure, would not scatter to homes such as those I have described, but to roofs which worthily, if modestly, shelter so many of the sons of toil in this, the chosen country of labor.

To "make Americans" of the alien races which pour in such numbers upon her shores is the acknowledged task of the pulpit, the common school, and the democratic institutions of the States. Neither of these have any disposition to shirk work which, properly speaking, is not theirs alone. What part is the American employer taking or about to take in this, the most momentous of all questions for the United States? It is impossible certainly to say. In Holyoke, indeed, he appears chiefly in the character of a labor-importer; but we have already seen him, and shall soon again see him, as much alive as the state, the pulpit, or the school, both to the importance of the problem, and his large share of responsibility for its solution.

CHAPTER XI.

THE REGICIDE JUDGES.—BIRD-TRACKS.—THE HIGHER EDUCATION OF WOMEN.

THE twin villages of Hadley and South Hadley, in the vicinity of Holyoke, have each an interest of their own which must not be overlooked. Goffe and Whalley, two of the so-called "regicide judges" who condemned Charles I. to the scaffold, succeeded, upon the restoration of the monarchy, in escaping from England to America, while the remainder of their colleagues were apprehended and executed as traitors. Landing at Boston in the summer of 1660, the fugitives took up their residence at Cambridge; but finding the neighborhood of Boston unsafe, they left it in the following year for New Haven. Here they were well treated by the minister and magistrates, and, for some time, thought themselves out of danger; but upon the news that the king had proclaimed them being brought to the town, they were obliged to abscond. Towards the end of March in the same year, however, they returned and lay concealed in the house of Mr. Davenport, the minister, for a month. Learning that he was threatened for concealing and comforting traitors, they generously resolved to give themselves up to the authorities. The deputy-governor, however, on being informed of their whereabouts, took no steps to secure them, so, having first shown themselves publicly in New Haven, in order to clear Mr. Davenport from suspicion, they concealed themselves in a rock-shelter near the city, which still goes by the name of the "Judges' Cave." Here they were daily supplied with food by a Mr. Richard Sperry, no friend of kings, who sometimes carried provisions himself, sometimes sent them by his boys, with directions to leave the packet on a certain stump, from which the judges took it. Driven from this shelter by the attacks of panthers, they found a more secure refuge in a valley not far from the Judges' Cave, and here, or in similar hiding-places, they passed four miserable years.

During this time they had many apparently narrow escapes from being captured, either by the king's commissioners or the local authorities, and they would undoubtedly have been taken but that the latter, sympathizers with the Puritan rather than the kingly cause, were more anxious to screen than to arrest the judges. Thus, one day, when the pursuers were expected at New Haven, Goffe and

Whalley walked out from their shelter along the road by which they must enter the town. Here they were overtaken by the sheriff, who, exhibiting a warrant for their apprehension, made a show of taking them prisoners. Thereupon the judges stood upon their defence, and, planting themselves back to back, so defended themselves with their sticks that they repelled the officer, who went into town to obtain assistance, and upon his return found they had escaped into the woods.

On another occasion, when the commissioners were searching the town, the judges, shifting their quarters, found themselves, either by accident or design, at the house of a lady, who concealed them in one apartment while she received the commissioners in another, putting the latter politely and skilfully upon a wrong scent. While the pursuit was at its hottest, the minister, Mr. Davenport, took occasion to unite the people of New Haven in caution and concealment by a sermon preached from the following text of Isaiah : "Take counsel, execute judgment; make thy shadow as the night in the midst of noonday; hide the outcasts; betray not him that wandereth. Let mine outcasts dwell with thee, Moab; be thou a covert to them from the face of the spoiler."

In October, 1664, wearied out by a pursuit which the good-will of the people could only mitigate, Goffe and Whalley gave the king's commissioners a final slip and set out for Hadley. Travelling at night and faithfully guided, they reached the house of Mr. Russell, the minister of the village, after a difficult journey of a hundred miles. The house of this friendly clergyman had been specially and ingeniously fitted up for their reception. In the chamber assigned to them was a closet communicating by a trap and staircase with the cellar below, into which it was easy to descend, leaving no evidence of flight. Here, unknown to the people of Hadley, saving a few confidants and the family of Mr. Russell, the judges remained for fifteen or sixteen years, and here Whalley died in 1679. Soon after Whalley's death, Goffe left Hadley, after which no certain information of him can be obtained. There is, however, a tradition that he also died at Hadley, and was buried in the garden of a Mr. Tilton, one of the few persons besides the minister who knew of the refugees' presence.

The judges were gentlemen of worth, of dignified manners and appearance, commanding universal respect, and highly esteemed by the colonists for their unfeigned piety. Both had been generals in Cromwell's army, and both were renowned for their skill with the smallsword, as the following story illustrates. While the judges were at Boston, there came to the town an English fencing-master, who, challenging all comers, could find no rival with the rapier. At length one of the judges, disguised in rustic dress, holding a cheese

in one hand, and a dirty mop in the other, mounted the stage. The swordsmen laughed at him and bid him begone, but the judge stood his ground, whereupon the Englishman made a pass at him to drive him away. The sword was received in the cheese and the mop drawn over the master's face in such a way as to give him a pair of whiskers. Making a second pass, the blade was again caught in the same way, while the mop was now drawn gently over the eyes. At a third lunge it was once more held by the cheese until the judge had rubbed the mop all over his opponent's face. Thereupon, letting fall his rapier, the swordsman angrily snatched up a cutting blade, when the seeming countryman exclaimed, "Stop, sir; hitherto, you see, I have only played with you, but if you come at me now with the broadsword, know that I will certainly take your life." The firmness with which he spoke struck the master of fence, who said, "Who can you be? Either Goffe, Whalley, or the devil, for there was no other man in England that could beat me."

The following story of the judges was handed down orally among the inhabitants of Hadley for many years. "In the course of Philip's war, which involved almost all the Indian tribes in New England, the inhabitants of Hadley thought it proper to hold the 1st of September, 1675, as a day of fasting and prayer. While they were in church they were surprised by a band of savages. The people instantly betook themselves to arms, which, according to the custom of the times, they carried with them to church, and, rushing out of the house, attacked their invaders. The panic was, however, so great and the numbers so unequal, that they fought doubtfully at first, and in a short time began evidently to give way.

"At this moment an ancient man with hoary locks, of a most venerable and dignified aspect, and in a dress widely differing from that of the inhabitants, appeared suddenly at their head, and with a firm voice and an example of undaunted resolution reanimated their spirits, led them again to the conflict, and totally routed the savages. When the battle was ended the stranger disappeared, and no person knew whence he had come or whither he had gone. The relief was so timely, so sudden, so unexpected, and so providential, the appearance and the retreat of him who furnished it was so unaccountable, his person was so dignified and commanding, his resolution so superior, and his interference so decisive, that the inhabitants, without any uncommon exercise of credulity, readily believed him to be an angel, sent by Heaven for their preservation. Nor was this opinion seriously controverted until it was discovered, several years afterwards, that Goffe and Whalley had been lodged in the house of Mr. Russell. Then it became known that their deliverer was General Goffe."

From Mount Holyoke, on the left bank of the Connecticut River,

and a few miles south of Hadley, is seen the finest prospect in New England. At this point the stream breaks through the range of trap hills forming its western boundary, and upon either side of the breach stands Mount Holyoke and Mount Tom respectively, the highest crests in the whole basaltic line. The summit of the former mountain is about a thousand feet above the river, and thence the eye, looking south, is presented with a vast expansion embracing sixty miles of the river's course, the ranges which bound it on either side, and an extent of farms, fields, forests, villages, churches, hills, valleys, and plains, such as can scarcely be imagined. Looking north, it travels over a basin twenty miles long and fifteen miles wide, with the Green Mountains sweeping around its western, and the Lyme range around its eastern rim, and then fading away in the distance, while, on either hand, lie a number of towns beautifully disposed on the flanks of the stream.

But the river itself, with its splendid curves and margins of cultivated land, forms the finest part of the scenery. It here turns four times to the east and three times to the west within twelve miles, and, in that distance, makes a progress of only twenty-four miles. One almost circular sweep, called the "Ox-bow," performs a circuit of three miles without advancing its course towards the ocean by a hundred rods. The intervalles which border these graceful turns are disposed in terraces, rising one above the other as they recede from the river. Their well-tilled surfaces are checkered by an immense number of fields, separated from each other by imaginary lines only, and crops of meadow-grass give way, successively, to forest, barley, maize, apple-orchards, and tobacco. Such is the appearance of the existing Connecticut valley, a startling contrast in every respect to that which it presented in those triassic times of whose strange birds and reptiles it contains so many interesting records.

Eighty years ago a student of Williams College, named Pliny Moody, while ploughing on his father's farm at South Hadley, turned over a slab of sandstone, whose under surface appeared as if marked with the tracks of a bird. This at once attracted Moody's attention, for there was little geological knowledge in those days, and he, like every one else, believed that the solid strata of the earth had been called suddenly into being without passing through any formative process. But the student's common-sense told him that the footprints in question were probably made at a time when the sandstone was plastic, and, having heard of but one period of aqueous deposition, he concluded that Noah's raven had wandered about the Connecticut valley in search of dry land, at the moment when this particular slab emerged, soiled and dripping, from the waters of the Deluge.

Thirty-five years later, as Mr. Draper, who lived at Greenfield,

thirty miles farther north, was returning one Sunday from church, his attention was directed to some large paving-stones, which also exhibited bird-tracks, and, turning to his wife, he at once remarked, "My dear, there are some turkey-tracks made three thousand years ago." Well, we cannot even yet, with all our geological knowledge, date the many similar indications of avian and reptilian life which have been found so abundantly in the sandstones of this locality, but at least we know that neither raven nor turkey walked the shores of the Connecticut River at the time in question, for neither of these highly organized birds had yet come into existence.

The Connecticut valley in triassic times was an estuary thirty or forty miles wide, covered with still and shallow waters. Over its wide shores great reptiles and strange birds wandered, leaving footprints which, under favorable circumstances, were covered up with mud or sand, and so preserved. The whole area was, at the time, slowly subsiding, so that strata containing these "fossil footprints," as they are now called, got piled one upon the other to a depth of some five thousand feet. Every page in this great book is illustrated with fragmentary pictures of the strange creatures living at the time in question, and it has long been the business of science to infer the outward forms of these animals from such marks as those which were first observed by Pliny Moody.

Almost all of them were reptiles, although differing utterly from anything we know by that name in the present day. Some, the labyrinthodonts, were bipeds, having feet twenty inches long, a stride of a yard, and tall enough to look over a twelve-foot wall. Others, the deinosaurs, had three-toed, bird-like hind-feet, and smaller, four-toed fore-feet, and they, while generally walking like quadrupeds, could raise themselves erect and march off like gigantic birds. Still other saurians flew through the air or swam in the waters of the estuary, while such birds as accompanied the former were as yet little more than improved reptiles. They measured height with the amphibians, outreaching them by their longer necks, and had long legs, like an ostrich, toothed jaws, and lizard-like tails. Many of them were of immense size, and one at least must have been larger than the great New Zealand Moa, or *Dinornis*, a bird for whose egg a hat would make a good egg-cup.

After these strange animals had flourished through the immense period of time necessary for the deposition of such a thickness of sandstone as that in which their footprints occur, reptilian supremacy came to a violent end in the Connecticut valley. A series of volcanic eruptions shook the entire district. The level sandstone strata were upheaved and cracked in every direction, and from the fissures there issued innumerable streams of lava. These afterwards cooled into the basaltic ridges which now hem in the Connecticut River on

the west ; ridges from whose crests the traveller overlooks a scene impossible to match in New England, and difficult to rival in the world.

Mount Holyoke, one of these trap hills, has given its name to the female seminary, founded by Miss Mary Lyon, in 1837, for the higher education of women. Little attention was given, fifty years ago, to the preparation of women for their various useful and even noble duties, while for their talents and energy there was neither training nor openings. The curriculum of a finished education comprehended little more than the three R's, a superficial knowledge of French, music, and drawing, a smattering of polite literature, and some skill in dancing. Accomplishments were all that the young women, whether of England or America, inherited, half a century ago, on the passing away of their school life. This bequeathed no legacy of domestic knowledge to the married, no resources from *ennui* to such girls as remained at home and single, and no marketable acquisitions to those who wished to earn a living for themselves.

It was against an education of this kind and the aimless indifference of character which it produces, against the want of earnest womanhood and of high ideals, that Miss Lyon entered her protest, and to remedy which she devoted her life. We have not time even to glance at her arduous early labors, but their results are visible at South Hadley in a great group of handsome buildings, standing retired in romantic grounds, and overlooking the beautiful Connecticut valley.

About three hundred young ladies are now receiving an education of the highest class at Mount Holyoke Seminary. Candidates for admission to the junior classes must be at least sixteen years of age, and are preferred at seventeen or eighteen. They must be exceptionally well taught in order to pass the entrance examination, and the regular course of instruction afterwards occupies four years.

Nothing can be more happy than the general arrangements of this great school-college. The means and appliances of study are perfect and ample, the organization is excellent, the management methodic and efficient, the life of the students both simple and refined. The class and lecture rooms, library, laboratory, museum, and biological, geological, and botanical collections are worthy of a great university. So also is the observatory, with its Alvan Clark equatorial refractor, meridian circle, sidereal clock, and electrically recording chronograph. Its curriculum again, whether of classical, mathematical, literary, or scientific studies, has a university scope, while its staff of professors includes some thirty women of rare scholarship and educational experience, aided by a half-dozen or more lecturers on history, science, and art, including men of such distinction as Professor Young, the astronomer, and Professor Hitchcock, the geologist.

But Mount Holyoke Seminary is not simply an advanced school or college. Miss Lyon's leading idea was to equip her girl-students with something more than knowledge. She did not think that young people should be left to themselves morally at an age when they still require years of intellectual training, and her great aim was to form the character while informing the mind. With this view, she based school upon family life. Teachers and students live together, read and recreate together, as well as work together. Family and school are so organized as to form parts of the same whole, each advancing the interests of the other, and both uniting to promote the improvement, comfort, and happiness of the household, which is bound together by the family tie, rather than kept together by restriction.

Much more than this, however. There is not a single domestic servant resident in the school, and, saving cooking and scrubbing, the whole work of the house is performed by the students themselves. Every girl spends an hour a day in some defined service, and as many hands make light work, while the laborer himself best knows how to economize labor, it is not surprising to find Mount Holyoke Seminary distinguished by neatness as great and cleanliness as thorough as that of the Shakers themselves. Withal, it is no part of the founder's design to teach young ladies the domestic arts. This branch of a woman's education is exceedingly important, but a literary institution is not the place to give it. Home is the school, and the mother the teacher, of domestic economy. Servants were dispensed with at Mount Holyoke solely for economical reasons in the first place, but experience has shown that valuable results in the development of character are obtained by making every one in turn the servant of all. Hence the "domestic system" has been retained, although the liberality of individuals has placed the work which Miss Lyon commenced beyond the need of such minute economy as the non-employment of servants.

And now, what do the refined and ladylike girls whom I saw at work in the classroom, the laboratory, and the museum, reading in the library, or strolling through the grounds—the daughters of farmers, traders, and professional men—pay for their excellent training? Just \$175 per annum, inclusive of every expense. It is as if Girton or Somerville Hall opened their doors to students for £35 a year!

CHAPTER XII.

HARTFORD.—SILK.—“A CREAMERY.”

HARTFORD, the capital of the state of Connecticut, is not so much a manufacturing city as the centre of an immense banking and insurance business. It is, besides, one of the prettiest and pleasantest residential towns in New England, the wide avenues of its charming suburbs being bordered with some of the most tasteful homes in the United States. No reader would pardon me if I omitted to say that here dwells the immortal Mark Twain, in a quaint house of his own building, situated on Farmington Avenue. Near him lives Dudley Warner, who must certainly have gained his experience of “pusley” in some garden less trim than his own. The word reminds me that, in the matter of gardens, Hartford is a long way ahead of most American towns. The Yankee does not usually shine as a horticulturist, contenting himself with a lawn and some shade trees, and rarely making a garden, in the English sense of the word. Here, however, he beds out, plants, and cultivates under glass, with the assiduity of a suburban Londoner.

The city lies upon the Connecticut River, occupying a site which was once warmly competed for by the English and Dutch. The latter, as we have already seen, were the first of the two peoples to explore this important stream, but a party of Plymouth adventurers succeeded in buying some land on its banks from the Indians before the Dutch had followed up their discoveries by making a settlement. Thereupon the Dutch acquired of a chief named Sassacus the spot where Hartford now stands, erected a trading-house which they called the “House of Good Hope,” built a small fort for its protection, armed this with two pieces of cannon, and then forbade the English from ascending the river to take possession of their purchase. This was in 1633, in the latter part of which year the Plymouth men sailed up the Connecticut River for the purpose of settling “Windsor,” and building a trading-house on their land. At the point where Hartford now stands they found their way opposed by the Dutch, who threatened to open fire from their little stronghold if the party attempted to proceed. But William Holmes, the leader of the English, was a bold and resolute man, so, taking no heed of threats, he pushed by the House of Good Hope, defying the

Dutch guns, which, happily, kept silence. Thus was accomplished the settlement of Windsor.

Although New Amsterdam, the headquarters of the Dutch, was much nearer than Plymouth, the English were the more enterprising people, and they soon began to come from Massachusetts Bay to the Connecticut River by land as well as by water. Whole churches formed little colonies and made their way through the forests which then covered the country, seeking to exchange the inhospitable soil of Massachusetts for the fertile bottoms of which they had heard from the Indians.

In this way the English settlement of Hartford was begun in 1635, although the main body of its first colonists did not arrive there till the following year. In June, 1636, the Rev. Thomas Hooker, a native of England, a graduate of Cambridge University, and a very remarkable man, left Boston for Hartford, with a party of some hundred men, women, and children. They had no guide but the compass, and made their way through the primitive forest and across swamps and rivers with the utmost difficulty. They drove their cattle before them, and lived chiefly on the milk of their cows. Each man carried his own pack on his back and his arms in his hands, while the journey of a hundred miles occupied them a fortnight.

Such was the fashion in which the Puritans settled New England, and such were the schools in which character was formed in early colonial days. The minister led the flock, and there followed him no band of hungry adventurers, but a godly company owning and relying upon the divine guidance, and often composed, as was particularly the case in the settlement of Hartford, of persons of figure, who had lived in honor and affluence in England, and who had previously been entire strangers to fatigues and dangers of all kinds.

In all the annals of the American colonies there is nothing more remarkable than the extent and permanence of the influence exercised on the future of settlements by the character of their early founders. The Rev. Thomas Hooker, "the father of Connecticut," as he was called, was one of that small number of men who are destined to have a great and good influence on the affairs of mankind. In the infant colony in question his authority was, indeed, commanding. Little was done without his approbation, and everything which he approved was done as a matter of course. The measures which he caused to be adopted were such as stand the scrutiny of succeeding ages, and it is by no mere accident that the same moderation, wisdom, and firmness which characterized all that Hooker did have remained conspicuous in the public measures of Connecticut down to the present time.

The lion of Hartford is "Charter Oak." The Puritan colonies

had a great deal of trouble about their charters, or the parchments by which the British government secured to the colonists the right to make their own laws and appoint their own magistrates. These were their protection against any injustice which governors coming from England might do them, whether by the limitation of religious liberty, the restriction of commercial freedom, or the invasion of personal rights. So anxious were the colonists to preserve these charters that they would side neither with king nor parliament during the civil war in England, fearing, if they became partisans of one cause, that the adherents of the other might oppress them if ever they came into power, and trying, therefore, to keep out of the war altogether, in order that they might hold fast to their charters.

These the English government attempted several times to take away, and, finally, James II. sent out Sir Edmund Andros for this very purpose, with authority to act as the royal governor of all New England. He came to Boston with great pomp and state in 1686, and, soon after his arrival, both Massachusetts and Rhode Island submitted to his authority. But when he wrote to the colony of Connecticut requesting their charter, they refused to give it up. Thereupon, Sir Edmund, with his suite and some regular troops, came to Hartford, demanded the charter from the legislative assembly, which was then sitting, and declared the government of this body at an end.

The assembly, while it received the royal governor with every consideration, would pass no resolution to surrender, or even, at first, produce the charter, and the question was warmly debated between the legislature and Andros for an entire day. At length, night having fallen, the parchment was brought in and laid upon the table, but by this time numbers of the townspeople had assembled, and among them were men bold enough for any enterprise. Suddenly a whistle was heard, and at the same moment every light in the room was extinguished. The crowd remained orderly and quiet, and presently the candles were officiously relighted, but the precious patent was gone, and no one knew who had taken it or where he had bestowed it. Thereupon, after a stormy scene, Andros, in a rage, declared the government annulled and Connecticut annexed, by order of the king, to the other colonies which had already submitted to his rule. Calling for the record-book of the assembly, he wrote the word "finis" below the last entry in its pages, and so put an end, forever, as he thought, to the independent government of the colony.

The charter was carried off under cover of the darkness by a Captain Wadsworth, of Hartford, who hid it in a hollow tree fronting the house of Mr. Wylls, a worthy magistrate, whence, within a few years, it was again taken to form once more the corner-stone of

government in Connecticut; for, two years after this occurrence, the English revolution occurred, and was followed by a rebellion against the tyrannical royal governor of New England. When the men of Boston had thrown Sir Edmund Andros into prison, Charter Oak gave up its hidden patent, and, at the same moment, the word "finis" was erased from the colonial records of Connecticut.

James I., one of the most pedantic of men and stubbornest of kings, had, as everybody knows, an insane hatred of tobacco. But it is less generally known that this royal child of prejudice cherished an equally insane conviction that silkworms could be successfully reared in England, or that he bent all the energy of his nature to bring this about. Absolute as he was, however, it goes without saying that he grew no English cocoons, but, by a curious interaction of the king's two crazes, these became the parents of the silk industries of America.

In 1608 James commenced his attempts to compel the raising of silkworms in England, and it required fourteen years of costly failures to teach him that the thing was impossible. Meanwhile the colony of Virginia, chartered by the king in 1606, was becoming fairly prosperous through the cultivation of tobacco, which was, indeed, so largely grown that the price of everything in the colony, from the rector's salary to a pair of boots, was reckoned at so many pounds of tobacco.

The failure of his English silk scheme gave the author of the "Counterblast" an opportunity to gratify his two master passions at one and the same time; to cut up the culture of tobacco, root and branch, in Virginia, and to employ the colonists in rearing silkworms for him. The times, it must be remembered, were those when the mother country regarded her colonies as existing solely for her advantage, so that James may, perhaps, be excused if he cared nothing about the effects of his policy on the prosperity of Virginia. What the royal protectionist did care for was to make English looms independent of foreign silk, and the Virginians dependent on the English market for the sale of their cocoons. With this view he issued a series of peremptory orders. The culture of tobacco must be abandoned. The mulberry must be grown and silkworms reared. The company who were managing the affairs of the colony must follow up his decrees by suitable legislation.

These gentlemen answered the royal demands by imposing a fine of ten pounds upon every tobacco planter who did not cultivate at least ten mulberry trees for every hundred acres of his estate, and thus, in the course of a few years, small quantities of raw silk began to find their way from unwilling growers in Virginia to England. But presently came the English civil war; the Stuarts disappeared, and Cromwell had enough on his hands without troubling himself

about the cultivation of silk in a distant colony. In the meantime, and in spite of the "Counterblast," the Virginian tobacco trade was becoming more profitable than ever, so that if, during the hundred years next succeeding the civil war, some delegate to the colonial assembly would now and then appear in a waistcoat of home-grown silk, King James's mulberry-trees were almost all dead before the close of the seventeenth century.

The seeds of a new industry had, however, been introduced into a country where industry germinates rapidly, and in the course of the eighteenth century every one of the colonies, from Massachusetts to Georgia, raised more or less silk. Most of the colonial governments, indeed, stimulated silk-culture by handsome bounties, and, in Connecticut particularly, the growth of silk was general before and during the Revolution, surviving, indeed, till as late as 1825. Many persons now living remember groves of white mulberry-trees and rude wooden cocoeneries where the women of the generation immediately following the Revolution used to tend silk worms. It was, however, impossible for this business to flourish in a country where energy could be applied with constantly increasing success to the growth of cereals and the raising of cattle. Hence, during the first quarter of this century, American silk-culture was everywhere languishing, even in Connecticut, until it was suddenly revived by a remarkable but disastrous speculative movement, the result of two entirely independent stimuli.

Early in 1830 the Lyons Chamber of Commerce published a very flattering report on the quality of some silk which had been reeled in Philadelphia, and in the same and following years, Congress, alarmed at the rapid growth of the silk imports, showed itself specially desirous of promoting the cause of silk-culture in America. The secretary of the treasury produced a very encouraging report on the subject, and, stimulated by this and French appreciation of American silk, every one was thinking and talking of how to revive and enlarge the business.

All this excitement happened to coincide with the introduction of a new variety of the mulberry-tree called *Morus multicaulis*. An acre of *Morus multicaulis*, it was said, would sustain silkworms enough to produce a hundred and twenty pounds of silk, worth, according to the Lyons report, twenty-five shillings a pound; while the trees were declared well suited to the climate of New England and of remarkably rapid growth. Between 1830 and 1839, when the bubble burst, the excitement about the new mulberry-tree, which was going to make everybody's fortune, grew at a geometrical rate of progression. Cuttings, worth from twelve to twenty shillings a hundred in 1834, were sold for a hundred and twenty pounds in 1837, while, in the following year, single trees, once worth a few

cents, were purchased at forty shillings apiece. One nurseryman, carried off his feet by the demand, sent an agent to France, with twenty thousand pounds in his pocket, and orders to buy a million trees; but before these were delivered the crash came, and *Morus multicaulis* was everywhere going begging for purchasers at as many cents as it had fetched pounds only a month before.

Silk-culture in America never recovered from a blow which, however, did not entirely destroy the hopes of many patriotic men who, both in and out of Congress, had done much to encourage it. Those, however, who had been hardest hit now thought it best to begin the manufacture of silk goods with imported material, while a few still clung to the hope of growing raw silk in the country. The experience of more than two hundred years had, indeed, proved that excellent silk can be produced in the States, but, aside from the greater profitableness of simpler crops, America could not compete with the highly skilled and cheap labor of the Chinese in reeling the cocoons. This has always been, and still continues, an insurmountable obstacle to the production of raw silk in America, and when it was coupled, first with the *multicaulis* disaster, and, four years later, with a blight that affected all the mulberry-trees in the States, the rearing of silkworms was practically abandoned. Thus expired, after an existence, rather than a life, of nearly two hundred and fifty years, the offspring of James I.'s two crazes, which, dying, left behind them a child of some promise, the silk spinning and weaving industries of America.

It was during the fever fit of 1838-39 that the largest and most famous silk-mill in America came to the birth. The Cheney brothers were eight able sons of a Connecticut farmer, and all of them in their boyhood had cultivated mulberry-trees and reared some silkworms. Early in 1838 four of them started a silk-mill at South Manchester, not far from Hartford, where, after suffering heavy losses from the *multicaulis* failure, they finally succeeded in becoming established as makers of substantial goods of inferior quality, woven by special machinery of their own devising from silk waste. They chose this class of work, in the first instance, because American silk-mills were quite unable to compete with European manufacturers in the higher classes of fabrics at a time when the duty on imported silks was less protective than it is now. Their policy resulted in the contrivance of so many improvements in the machinery which had to be adapted to the spinning and weaving of floss that when the war tariff on silk rose, first to forty, and afterwards to sixty per cent., the Cheney brothers found themselves easily able to meet the severe home competition which followed, as a matter of course, upon the overpampering of the industry in which they were engaged. Thus the house prospered and its business grew apace.

The South Manchester mills were supplemented by others situated in Hartford itself, while the goods produced at both places were constantly improving in quality and in reputation.

But it is not merely on account of its success and high standing that I make use of this firm as a figurehead for the silk trade of New England. Half a dozen pioneers, as energetic as the Cheney's themselves, had entered the same field of enterprise before they did, and a number of excellent men followed them. Of the former, a German, named Horstman, was the first to introduce the Jacquard loom into America in 1815; while Samuel Whitemarsh, commencing ten years before the Cheney's, did perhaps more than any other man for the silk cultivation and manufacture of America. But these brothers were very remarkable men, who conducted their factories upon purely democratic principles, and who, consequently, will form our first examples of a certain type of American employers, such as I promised we should find soon after leaving French-Canadian Holyoke.

It is difficult for any one, acquainted only with the average factory, to picture the early manufacturing life of South Manchester. The mill-hands were intelligent and well-educated American girls, whose relations with their employers were those of unquestioned equality. Perfect simplicity of life accompanied this democratic equality. The Cheney's worked shoulder to shoulder with their operatives, although at the study of foreign and improvement of home methods and machinery, instead of at the loom and spinning-frame. Contact between employer and employed was free from any sense of caste distinctions, which, indeed, could have no existence between classmates of the common school, of whom, if some were gifted with more ingenuity or energy than others, all had from childhood stood upon the same social platform.

Meanwhile, as the two great factories of Hartford and South Manchester grew, they became, almost as a matter of course, models of convenience and sanitary excellence. The latter village was specially designed to minister to the health, comfort, instruction, and enjoyment of its people; the cottages for the married employees have each ample room, a good garden, and a gas and water supply, while there are excellent boarding-houses for the single, or those who prefer not to keep house. There is not a fence in South Manchester, but the pretty white houses lie, like those of academic Williamstown, scattered with regular irregularity about wide and tree-shaded lawns. There is a fine public hall, free library and reading-room, a first-rate school, an armory for the military company, and ample accommodation for religious worship, but, as a matter of course, no liquor saloons.

If I speak of South Manchester as it is, and of its labor conditions

as they were, it will be understood that the latter could not fail to become modified by the wave of foreign labor, which has risen almost as high in the silk as in the cotton mills of America since the Cheney brothers began business. The native American operatives with whom they were exclusively associated in the earlier years of their enterprise have now, for the most part, left the loom and the spinning-frame to become superintendents or masters, and their places have been largely taken by foreigners. For the improvement and welfare of these less-favored children of toil, however, the Cheneys acknowledge an even greater responsibility than in the case of their better-instructed predecessors, and, hence, South Manchester offers to its French-Canadian, Irish, or Italian operatives the best opportunities for becoming as intelligent men and women, as good citizens of the republic, as worthy heads of families, and owners of as comfortable homes as the native help that went before them.

We shall, indeed, presently see that the great Connecticut silk-throwers do but typify a growing class of American employers, not, I am glad to say, confined to New England, who view with the utmost alarm the prospect of labor falling from its old and high estate in America. It is well to take the taste of the French-Canadian quarter at Holyoke out of the mouth, as soon as possible, with this cheering fact, but we shall better discuss the plans by which these patriotic captains of industry propose to meet a grave national danger after we have looked a little more closely into their details.

Meanwhile, let us have the curiosity to inquire for a few moments why every grocer in this town of Hartford, as in New England generally, advertises "creamery butter" as the best, and why, in certain states, scarcely any dairy products are now made except in factories. Of these there are nearly four thousand in America, or one to every nine hundred milch cows in the dairy state of New York, while American creameries altogether employ a capital of two millions sterling, and eight thousand hands; turn out five million pounds' worth of milk, butter, and cheese per annum, and are rapidly increasing in numbers.

The Maple Farm, a few miles from Hartford, is an establishment of which we have, at present, scarcely any examples in England. There I drove, one lovely spring afternoon, our road to the butter factory now crossing the rich bottoms of the Connecticut River, now climbing over high, basaltic ridges, whence the eye wandered widely over terraced intervals carpeted with variegated cropping. The beautiful "swallow-tail" butterfly (*Machaon*) was our constant companion; while now and again a brilliant oriole flashed from tree to tree, or an occasional humming-bird crowned the opening calyx of some wayside flower with a diadem of quivering jewels.

At length, in a retired valley, we found a charming little wooden house, built in Queen Anne style, æsthetic in color and closely embowered with newly leaved maples. At the door was a farmer's cart, whence a girl, standing within an open *grille*, her trim half-length framed with the sunny greenery, was receiving milk, weighing it in a specially contrived pair of scales, and discharging it into a neighboring tank. When the last is charged with the day's supply, its contents are allowed to flow into a number of deep, circular "setting-cans," which stand immersed in a flowing stream of cold spring water. Next morning, or twenty-four hours later, the cans are skimmed by means of a long-handled, conical ladle, which, at a single dip, takes off all the cream. This then flows into a steam-jacketed vat, where its temperature is raised to fifty-eight degrees in summer, and sixty to sixty-four degrees in winter, rendering it fit for churning. Old-fashioned "dasher" churns are employed, and are driven by a steam-engine which furnishes all the motive power required in the establishment, whether for dairying purposes or the cleansing of vessels. The butter, when formed, is "worked" on a machine consisting of a revolving table, which turns under a fluted wooden roller and thus mixes and consolidates the butter, while the buttermilk flows away by a peripheral channel. The butter is brought again and again to the roller by the attendant, using a pair of wooden "hands;" but, from first to last, it is untouched by the fingers. After working it is placed in a mass within an ice-chamber, whence it is taken, as required, and made up into pats for the market. The pats are packed in boxes, shaped like a cake-tin, each of which holds fourteen pounds, and four of these boxes are then dropped, one above the other, into a deep tin cylinder. A fifth box, full of ice, tops them up, and when the cylinder has been closed with a locked cover, it is ready for despatch by rail.

Maple Farm receives milk from thirty farmers, who are paid for it at the rate of 6s. 6d. per hundred pounds, and who subsequently buy back all the buttermilk at a halfpenny per gallon, both of these being summer prices. No milk is received except of a certain specific gravity, or at a higher temperature than eighty degrees. The skim-milk is sold to pedlers, who retail it in the neighboring city of Hartford, and a small quantity of pure cream, put up in bottles and sent out ice-cold, is disposed of at high prices by the same means. This creamery only handles five thousand pounds of milk, and makes less than two hundred pounds of butter daily, and is therefore a very small concern, in comparison with the immense establishments of New York and other dairy states. Some of these handle twenty thousand pounds of milk, and make six or seven hundred pounds of butter daily, while they are like palaces in the beauty and refinement of their construction. Many of the Ameri-

can creameries were originally started, and almost all of them are now owned by associations of farmers, who make large profits from these undertakings. It is even said that two well-known New York creamery owners, who at one time ran some twenty of these butter factories, were once offered, and refused, £10,000 for their profits of a single year.

In one important and interesting particular Maple Farm is behind the practice of the most advanced creameries. The separation of cream from milk, usually effected slowly by gravitation, is now instantaneously produced by means of centrifugal separators, one of whose best examples, the Laval machine, was shown, for the first time in England, at the Royal Agricultural Society's meeting of 1879. Milk from the tank is allowed to run through a tap into a spheroidal vessel, about a foot in its larger diameter, which rotates at a speed of six or seven thousand revolutions a minute. The heavier milk is, at once, thrown out to the circumference, while the lighter cream remains nearer the centre of the rotating vessel, and each is drawn off from its respective zone by suitable discharge pipes. Cream is thus separated at the rate of sixty gallons an hour, and the action is continuous as long as milk flows into the machine. No time is lost in setting, and ten per cent. more cream is obtained from milk by this process than under the old system.

The question of creameries is of much greater importance than any person who has not looked closely into it would suppose. Twenty years ago scarcely any foreign butter was imported into this country, but now not one hundredth part of the butter eaten in London is of English origin. Great Britain, indeed, buys twelve million pounds' worth of butter every year from foreigners, a sum equalling in value all her tea trade, or half her sugar trade, and being nearly one fifth of her largest import, corn. Yet the climate, the soil, the price of cows, wages, and the cost of transport are all in favor of the native dairyman, who, within twenty years, has allowed this great trade to slip through his fingers. The British farmer makes his two or ten dozen of butter weekly, and sends it, say, to the London market, where the retail buttermen must go, very early every morning, to make a selection from many hundreds of "flats," each differing in quality from the other, and not very temptingly displayed in wrappings of cloth, or even old newspapers. Butter from Normandy and Holland, on the other hand, comes forward in a very different way. It is the produce of factories where, after being treated in the way already described, it is put up, natively papered, in boxes holding a dozen two-pound rolls. The contents of every box distinguished by a given brand are alike in color, taste, and quality, so that the retailer can order from day to day with the certainty of getting just what he wants

and without any expenditure of time and trouble. A trade of twelve millions per annum has already been lost to this country because English farmers do not associate for the purpose of butter-making as their American brethren have done. More and more of this business is being annually filched from English homesteads by the enterprising owners of French and Dutch butter factories, and it is high time that some of our bucolic Rip Van Winkles should awake to a sense of what they have lost, and make an effort to recover it in the creamery.

CHAPTER XIII.

THE WILLIMANTIC THREAD COMPANY.—“BENEVOLENT” MILL- OWNING.

“The leaders of industry, if industry is ever to be led, are virtually the captains of the world. If there be no nobleness in them, there will never be an aristocracy.”—CARLYLE.

THE reader is already aware that I am one of those who venture to hope for a future peace between capital and labor, and a more equitable distribution of the fruits of the common toil, to be brought about by some as yet, perhaps, undetermined form of co-operative production. But, regarding human institutions, equally with the modifications of organic life, as products of evolution, I am not disposed to “hurry up” the slow growth of social changes, any more than to set my heart upon breeding tumblers from blue-rocks within some specified number of generations. The inflexible law, “multiply; vary, let the fittest live and the unfittest die,” has the same application to the origin of ideas as to the origin of species, and the lists are not yet, and may not for many years be, set for an internecine struggle between the wage-earning system and co-operative partnership. Hence I welcome, with all my heart, any modification of the factory that differentiates it from the mere “money-mill,” and none the less warmly, perhaps, because I cherish a secret hope that through some promising “variety” of this kind the line of descent from competition to co-operation may even now be about to pass.

Certainly, if there is one establishment which, more than any other in America, encourages hope for the future of labor, it is the Willimantic Thread Company of Connecticut. I have entitled this a “benevolent” mill, not that the word properly characterizes the principles on which it is conducted, but because those principles have exactly the same fruits as Christian kindness, which really regulates the factory, although, professedly, only because “it pays.” Do not let me be misunderstood. These mills are no industrio-religious or philanthropic institution, but an important commercial undertaking, and if I say they are administered on Christian principles, that is because I want to give all the prominence I can to the fact that “doing as you would be done by” is the mainspring

of government at Willimantic, and a provably important factor in the prosperity of the mills.

In a case of this sort, it goes without saying that there is a strong man with high ideals at the helm of the ship, so let me at once introduce the reader to Colonel Barrows, president and manager of the company. This gentleman was captain, and afterwards brevet-major, on the staff of General Webb during the civil war, upon whose termination he determined to learn the trade of a machinist, and, with this view, apprenticed himself to the Lowell machine-shop, where he worked seven years. There, in the first instance, he wheeled pig-iron, and cleaned castings at wages of two shillings a day; but when his apprenticeship ended, he was first put in charge of some paper-mills, and afterwards entered the service of the Willimantic Thread Company as assistant treasurer in 1874, to become the general manager in 1876.

From the time of his accession to this office the work began that makes the company to-day a brilliant illustration of how much mill-owners can do to advance the happiness and raise the moral and intellectual condition of their operatives. This, in Colonel Barrows' opinion, is a matter of direct self-interest for employers, if they could only see it. "Why is it," he asks, "that the Willimantic thread will lift more ounces of dead weight and is smoother than any other? Every manufacturer can buy the same cotton and the same sort of machinery to work it. Why, then, the superiority of our products? Simply because they are made by people who know more than any other people in the world engaged in the same work. They put more brains into their work than others do. They are intelligent enough to know the value of care, intelligent enough to be conscientious about employing it, and intelligent enough to know how best to apply it with skill to produce the best results. That is why it pays us, directly, to increase their knowledge."

So far Colonel Barrows' words. Let us now go and look at his works. The mill will invite us first, then the library, reading-rooms, schools, and art schools, next the splendid co-operative stores, where his people—I had almost said his family—supply all their wants. Afterwards we will visit the industrial village of Oakgrove, enter some of its pretty houses, and last, not least, spend a few moments at the president's own simple but charming home, which, accessible to all Oakgrove, crowns a little eminence in the very centre of the operative settlement.

The Willimantic is a small stream which, rising on the eastern flank of the Lyme range, already described, joins the Thames about twenty miles north of the Sound, to debouch with the latter river at New London. The mills owe it some thanks for power, but more

for beauty, as it plunges past them in a series of cascades, whose clear, brown waters throw themselves, three times in the space of half a mile, over masses of gneiss rocks, which art has fashioned into dams, and Nature has adorned with the foliage of maple and birch. Behind the green arbors which overarch the flashing water, rise the shoulders of great wooded hills, upon the flats at whose feet stand the mills, extensive and handsome buildings of white granite, rising from wide, closely mown lawns, tastefully planted with maples.

We approached the newest and largest of these fine workshops by a wide gravelled path, winding through a garden, whose beds were waiting for their summer dress, and entered the mill by a handsome glazed porch, one of several similar anterooms. These, in addition to being provided with numbered closet spaces for wraps and hats, are hung with pictures, and further decorated with sub-tropical plants growing in suitable beds, so that we seemed to be on the threshold of some great conservatory, rather than approaching a mill by the work-people's entrance. Nor can the visitor, at first, think otherwise on passing from the porch into the factory. The floor of its vast single room, nearly a thousand feet long and two hundred feet wide, contains, indeed, fifty thousand spindles; but instead of looking upwards to a low, dark ceiling and a chaos of whirling pulleys and belts, the eye seeks the azure of a New England sky through a roof, partly of clear, partly of colored, glass, prettily disposed in geometrical designs. The motive-power is in the basement of the building, and all the shafting is housed in brick, tunnel-like chambers, beneath the floor, which consequently offers a firm, instead of a disagreeably jarring, footing to the operatives. The walls are mere piers, separating great windows, also of clear and colored glass, below each of which the brick-work is fashioned into pockets, filled with soil, and forming great flower-beds planted with climbers, such as taxonia, cobæa, and English ivy, together with geraniums, petunias, and flowering shrubs, which frame the spindles, so to speak, in roses. The huge room is spotlessly clean, and beside the spinning-frames stand girls who, although mill-hands, may truly be said to be of from fifteen to twenty-five summers. All of them are neatly dressed, and wear a uniform white linen apron of tasteful cut, while their faces are clean, bright, and healthful, and their hair carefully, often skillfully, dressed.

One of the first things to catch my eye in the Willimantic mills was the following notice, posted in all the entrance-halls: "No person who cannot read and write will be employed in this mill after the 4th of July, 1884." The paper was dusty and stained with age, having already hung for some three years in its place, so that no employees were without ample warning of the manager's intentions, or the opportunity of learning in time, if they did not

already know, how to read and write. It will be understood that almost all the help at Willimantic is Irish, with some admixture of Canadians; if it were still, as in the early days, American, no such paper would, of course, have been seen, but Colonel Barrows knows that if he is to "make Americans" of his alien operatives, he must begin by educating them. There is not, however, a man, woman, or child in the mill who will be qualified for discharge under this notice when it comes into operation next Independence Day.

The dining-room is a large, handsome apartment, decorated, like the porches, with pictures and plants, where all who please may get a capital mid-day meal, well-cooked and daintily served, for a trifling sum. Here, too, at nine o'clock every morning, the younger hands assemble in detachments, to take a cup of milk and a slice of bread-and-butter. This light refreshment is furnished at the expense of the company, and may form the first and simplest example I have to offer of a benevolence that "pays." American mills begin work at seven o'clock, and the first stop for a meal is made at noon. Five hours is too long for young people to wait for food without a sacrifice of vital energy, and hence it has been found, by carefully comparing the cost of time and food in question with the increase of production to which it gives rise, that it pays to show this attention to the health of the young hands. So marked, indeed, was the advantage that followed upon it that Colonel Barrows is now trying a further experiment in the same direction. A certain section of the help has been selected to receive a small cup of bouillon at 10.30 every morning, but without leaving their machines. This had been given for three months previously to my visit, and with such effect that I found it easy to determine in what section of the factory the experiment was in progress by the greater appearance of physical vigor in the operatives. "It is not benevolence," said Colonel Barrows, "it pays; otherwise I could not ask my directors to adopt the plan. I proved the value of the milk-meal by figures before I allowed the company to pay for it, and when I can do the same thing for the bouillon I will ask them to relieve me of the cost. But," he added, "those girls go from their work, as they come to it, singing, laughing, almost dancing, and I know that, in their high physical condition, they cannot help turning out more and better work than the others."

"But," I asked, "your æsthetic treatment of the factory buildings, your stained-glass roof and windows, your little art galleries in the porches and dining-room, and, above all, your flowers, and the gardeners who care for them—do these things pay?" "Remember," was the answer, "I was my own architect in this mill, and, aside from expensive decoration, of which, observe, there is none, it costs no more to give an open roof an eyeable construction, or to paint it tastefully, than to disregard appearances altogether. As

for the stained glass, I admit that it has cost twenty pounds more than plain glass would have done, but, in so large a building, that is not a ruinous extravagance. The pictures are all presents or the work of our own art school, and as for the flowers, I must tell you something about cotton-spinning before you can understand that it pays to 'frame my spindles in roses.'

"Cotton-spinning cannot be carried on except in a moist atmosphere, and America, with her dry climate, has more difficulty in securing proper hygrometrical conditions in the spinning-rooms than Manchester. Usually the air is kept moist by spray-producing machines, called aspirators, and in our other buildings, not furnished, as this is, with flowers, it is the work of two men to attend to these aspirators and report on the hourly condition of the air in the mill. But here a single gardener does all the work of my conservatory, while the transpiration of the plants keeps the air much more equably moist than do the aspirators. In addition to this, I am sure that the very intelligence to which, as I have said, our thread owes its superiority is fostered almost as much by cleanliness, order, and beauty as by education itself."

"Your idea is evidently to make the factory something more than a mere workshop?" I inquired.

"I wish it to be a place only less attractive than home itself," was the answer. "Factory work is monotonous, I grant, but not more so, making fair allowance for the stimulus of promotion which always awaits good service, than the ordinary domestic duties. Work must always be largely a matter of routine for all but very high intellects; but routine itself need not be dull when its tasks are performed actively and easily because health is high, cheerfully because of reward and appreciation, pleasantly because of intelligent companionship and inspiring surroundings. But it is time for us to go and look at the library."

Half a dozen words, on the way, about the character of the labor which this captain of industry commands, and which he would lead to such splendid social conquests. This, as I have said, is almost entirely Irish, a nationality which passes through three phases of character after being exported from the Green Isle and semi-starvation to plenty and free America. When Paddy first lands in the States he is docile and well-behaved, although ignorant, as a matter of course. Presently, realizing the breadth and depth of American independence, he kicks up his heels, and, for a time, becomes a useless and almost intolerable member of society. Lastly, finding that, even in America, a fair day's work is required for a fair day's wage, he drops his airs, settles to some useful calling, if, happily, he escapes from keeping a beer-saloon, and, having learned the indispensability of an education he does not himself possess, sends

his family to the common school. The children of the first generation improve upon the father and mother; those of the second are better still; the third can scarcely be distinguished from Americans, and, at Willimantic, examples of every class I have mentioned are working together in the mill.

It was for such people that Colonel Barrows opened his first library, in an old blacksmith's shop, fitted up with bookshelves, well supplied with books, newspapers, and magazines, and to which every operative was freely invited. In the early days of the reading-room its Irish-American visitors behaved as only Irish-American youth can do. They sat in the comfortable chairs, hat on head and heels in air, chewing and spitting, treating the books without respect, and, if they read at all, discussing the newspapers loudly and foolishly. "I used to go down every night," said Barrows, "take off my hat on entering, and read my newspaper, as I would have done at a club. I never asserted myself or rated anybody, no matter how bad his behavior, but courteously greeted the room on entering and leaving, and showed myself ready to chat over the news, or, if asked, to read aloud, as I would among a company of gentlemen. It told in time; for, meanwhile, I was building good houses in Oakgrove, establishing the co-operative store, where it soon became known that the best goods could be had at the lowest prices, organizing evening schools and art classes, so that first the better, and then the worse sort began to realize that I really wished to benefit them, and to meet my advances half-way."

And now? The old library is abandoned to the smith once more. A really beautiful Queen Anne building has been added to the mill, and contains a library of two thousand volumes, a handsome reading-room, where all the papers and most of the scientific journals lie upon the tables, an amply equipped art school, taught by a New Haven professor, a singing school, in charge of a clever musician, a clerk in the company's service, and an evening school, taught by an excellent "school-marm," the American equivalent of our "certificated mistress."

And who and what are the readers, the students, and pupils of today? All the male hands in the mill, who look and behave like American mechanics—that is to say, like gentlemen—and a great company of bright, intelligent girls, pictures of health in appearance, as neatly dressed and as well, if not quite as finely mannered, as the students of Mount Holyoke itself. These meet after the day's active, but not exhausting, work is over, like some industrial family, far more eager than the daughters of an easy and luxurious life for a few hours of intellectual refreshment, and they scatter, when night empties conversation, class, and lecture rooms, to homes as worthy of working men and women as are the mills themselves.

Leaving this beautiful building—no crude, whitewashed home of elementary culture, but tasteful, refined, and well-ordered as a club in its design, decoration, and keeping—this legend, conspicuous on the library walls, was the last, as it had been the first thing upon which, entering, my eyes rested: "Remember that the learning of the few is despotism, the learning of the multitude is liberty, and that intelligent and principled liberty is fame, wisdom, and power. The well-educated operative does more work, does it better, earns more money, commands more confidence, rises faster and to higher posts in his employment than the uneducated workman can."—HORACE MANN.

The co-operative store, if it did not begin in a smithy, was first opened in a coal-shed. Finding that his operatives were paying two dollars a ton more for their fuel than the company, Colonel Barrows gave notice that they might buy from the company's stores at cost. Then he ascertained that they were giving too much at the shops for flour, so he treated this as he had done the coal supply, and, finally, opened three other departments, one for groceries, a second for meat, and a third for dry goods, shoes, and millinery. Thus, in the course of a short time after his coming to Willimantic, his people were able to buy everything they wanted about ten per cent. below retail prices, while Barrows, true to his love of the *comme il faut*, has made his shop a perfect miracle of cleanliness and order, vying in these respects with the mill itself.

The colonel has a fixed idea that by placing people among pleasant and beautiful surroundings they become more careful, cleanly, tasteful, and intelligent, and, therefore, as he is never tired of insisting, more valuable to their employers. So, by and by, he began building cottages for his hands on a picturesque and wooded site on the south side of the river known as the Oaks. Oakgrove is like Zenas Crane's industrial village at Dalton, but with one important difference. It was designed by a man who, if an American by birth, is an artist by nature. Hence gridiron streets and duplicate houses have given way at Willimantic to curving roads and dwellings made to seem all unlike by the simple and inexpensive device of repeating three types of construction instead of only one, and planting these with studied irregularity on their sites. Three grades of accommodation are thus provided, the rents in all cases being fixed at such a sum as will pay five per cent. on outlay. Every cottage is surrounded by a garden, and the gardener who attends to the mill supplies the people with cuttings and teaches them how to cultivate flowers. The president offers a prize for the door-yard that is handsomest in appearance on the first day of every September, and great is the competition, greater the general taste for floriculture, thus begotten.

We visited two of these homes of industry. The first was tenanted by a French-Canadian family, only one of whose members could speak good English. She, a comely girl of eighteen, told us that her parents and the three elder girls, of whom she was one, worked in the mill, earning together five pounds a week; that their rent was five shillings a week; that the younger children were at school, and the three working girls pupils of the evening and art classes. A glance at the spotless kitchen, at the mother's neat appearance, at the father's trim garden, told the rest of their simple story. Here was a family who, if they had fallen on careless employers, might have helped still further to crowd the flats of some Holyoke, but who had instead been lifted into higher conditions of life than they had ever previously known, by a "benevolence" which pays its own way. The second house was the residence of the electrical expert who looks after the Edison lights in the mill. He, of course, was a Yankee, and a highly paid man. We spent half an hour chatting pleasantly with him, and it did not surprise me, after some experience of American skilled labor, to find his house, if somewhat simpler, as attractive as that, say, of an English clergyman, while its books and papers gave ample evidence of the owner's familiarity with the world of commerce and science.

On our way to the chief's house we met a staid but sweet-voiced lady, dressed in gray, with a bunch of flowers in one hand and a little memorandum-book in the other. The colonel stopped to speak with her, and I, by and by, became aware that this was his "mission-woman," who visits sick homes, ascertains all wants, lightens many a weary hour of suffering by her presence, and brightens many an invalid room with flowers from the mill, while taking shrewd note of the condition of every house she enters, reporting her daily work to the president, and taking counsel with him in any cases of difficulty. "I would back the girls in my mill against any ladies' college in America," said he, as she left us, "whether for intelligence or virtue; but a wise and good woman always among the people does as much to keep us free of the beginnings of evil as the school or the pulpit."

A moment later we reached the door of one of the most tasteful but oddest houses I have ever seen. "This is my bungalow," said Barrows, "I hope you will like it. One of the chief objects I had in view when designing it was to show my people that beauty can be had without much money, and that a pretty home is within the reach of every operative." The walls are all made of old materials, or, rather, of overburned and distorted bricks, the refuse of a neighboring kiln. The courses are irregular in consequence, but tastefully so, and pretty climbers make the straggling Elizabethan cottage still more picturesque. The woodwork of the doors, windows,

and staircases have no mouldings, but constructive skill takes the place of other decoration, while the unpolished surfaces of native walnut and chestnut, two of the cheapest American woods, replace all paint. We entered a central hall, lighted from the roof, whose simple structural features were neither decorated nor concealed, and I looked in admiration round a noble yet home-like apartment, whose hangings, pictures, books, and furniture bespoke refined taste and, as it seemed to me, a long purse as well. "You have made a palace of your cottage, colonel," I said; "surely these embroideries and pictures are no examples for wage-earners to copy." "Every one of them is the work of my wife," was the answer, "as they might be those of our art-scholars. Come and look at her studio." I was not fortunate enough to see the mistress of this charming retreat, who was absent for the moment from her delightful home, but it was easy to see that Colonel Barrows possesses an able coadjutor as well as a "woman who exalts" in his wife. Her rooms are open to every mill-girl in Oakgrove, their adornments are things for her to study, their refinements goals for the granddaughters of Irish peasants to reach. Meanwhile, if there is no "Lady Bountiful" to patronize, there is counsel for trouble, sympathy for affliction, and encouragement for energy awaiting every operative who enters the chief's doors.

That this is no traveller's tale, no exaggerated account of what I saw at Willimantic, let the president's parting remarks testify. It was time I should go, having already absorbed many hours of my kind entertainer's day, so much interested was I in all he had to show or say. Shaking hands at his door, whence we surveyed the cottages of Oakgrove, crowding around the very feet of the larger house, I said, "You prefer, then, to live surrounded by your employees, and do not mind the white flutter of washing-days, or the shouts of children at play below, because you think you can better their lot by your presence?" "It is not, with me, a question of preference at all," was the reply. "This mill and these people are my life, my career, the next greatest responsibility I have in the world after that of my own family. I dare as soon desert my flag in action as leave my hands without their natural and appointed head. Good-bye."

CHAPTER XIV.

LOWELL, PAST AND PRESENT.

"Let the captains of industry retire into their own hearts, and ask solemnly if there is nothing but vulturous hunger for fine wines, valet reputations, and gilt carriages discoverable there? And thou who feelest aught of a godlike stirring in thee, follow it, I conjure thee. Arise, save thyself; be one of those that save thy country."—CARLYLE.

WE already know that a high condition of labor in New England is a survival of a state of things once much more general than at present, and we have seen it, now threatened, as at Holyoke, with complete submergence under the waves of foreign immigration, now lifted, as at Willimantic, to an even greater height than in the early days, according as *laissez-faire* is, or is not, king. In the early days, indeed, *laissez-faire* had no share in the administration of the New England factory, which, at a time when labor was most degraded in Europe, was conducted with the utmost care for the mental, moral, and physical condition of the operative.

In the beginning of this century the public opinion of New England was very unfriendly to the establishment of manufactories, so great were the complaints then made in Europe of these as the seats of vice and disease. Thus, when Humphreysville, the first industrial village on the Naugatuck River, was built by the Hon. David Humphreys, in 1804, discreet parents were reluctant to place their sons and daughters in its paper, woollen, and cotton factories, from unfavorable apprehensions concerning the tendency of such establishments. This notwithstanding the fact that General Humphreys' desire to foster American manufactures was solely the result of patriotic motives, and that he began the work with the avowed determination, either to prevent the evils of the European factory system from arising, or, if this could not be done, to give up his design. Hence he built comfortable and healthy houses for the accommodation of all his hands, who were abundantly supplied with vegetables from great gardens in the rear of the manufactories. All his apprentices were regularly instructed in reading, writing, and arithmetic, and any operative discovered to be in any way immoral was immediately discharged.

The same public opinion which stimulated Humphreys' efforts for the moral and physical health of his people influenced the state leg-

islature of that day. Humphreysville was still in its infancy when a law was passed constituting the selectmen and magistracy of any town in which manufactories had been, or should be, established, visitors of those institutions. The same statute required employers to control, in a specified manner, the morals of their workmen, and to educate their children as other children of plain families were educated throughout the state. The visitors were charged to inquire in what manner those duties were performed by the mill-owner, and to report any laxity on his part to the state legislature. Thus, contrary to what had occurred in Europe, the beginnings of manufacturing enterprise in America were marked by special efforts to secure the health, education, and morality of the operatives, while the idea of the mill-owner's direct responsibility for the intelligence and good behavior of his employees was firmly established in the public mind.

It was during the time when this responsibility was fully recognized that the most important industrial town in New England came to the birth. Harriet Martineau and Charles Dickens are only two among many distinguished writers who have sketched the factory life of Lowell, such as it was forty years ago, and given the world pictures which, if they once caused some silly people to laugh at the "refinements of factory girls," were none the less occasions of astonishment and delight to all sensible men at the time they were published. But everything is changed since then, and Lowell no longer knows the girl who tended a spinning-frame during the day and wrote for the *Lowell Offering* at night. Successive waves of Irish and Canadian immigrants have swept her out of the factories which now, better than any other establishments in New England, exemplify the extent and character of recent alterations in American labor conditions. Let me try, with the assistance of a lady, herself formerly a mill-hand, and who has recently given the world an account of "Early Factory Labor in New England,"* to sketch what the life of a Lowell cotton-spinner once was, while a stroll through the city will afterwards tell us what it now is.

In 1832 Lowell was little more than a village. Five "corporations" had started cotton-spinning there, but their mills were not yet all built. Help was in great demand, and stories were told all over the country of the new factory town and the high wages that were offered to all classes of workpeople; stories that reached the ears of farmers' and mechanics' sons, and gave new life to dependent women in distant towns and farmhouses. Into this Yankee Eldorado needy people soon began to pour by the stage-coach and canal-boat. Some of them were daughters of professional men, whose mothers, left widows, were struggling to maintain the younger children.

* Report of the Massachusetts Bureau of Labor Statistics, 1883.

Others had fathers and mothers in reduced circumstances, to whom they sent home part of their wages, while ostensibly away from home "on a visit." A few were people of mysterious antecedents, but the bulk were the daughters of New England farmers, store-keepers, and mechanics. These country girls arrived, dressed in outlandish fashions, their arms brimful of bandboxes, containing all their worldly goods. Their names were as old-fashioned as their appearance, notwithstanding which, Triphena, Kezia, and Samantha, Lovey, Leafy, and Plumy soon learned the ways of the town, and their early earnings made them as modish as the oldest mill-hands in Lowell.

At this time, it must be remembered, there was no lower caste than that of factory-girl known among the women who earned their own living in Europe. There she was little better than a slave, while her surroundings were most unfavorable to purity and self-respect. All this was well-known in America, and, at first, created a prejudice against factory labor, which, however, gradually gave way as the Lowell mills began to fill with healthy and energetic New England women, who brought the manners and independence of the country to the town, and soon began to make the latter an even better, because more stimulating, school of intelligence than the former had ever been.

Help, on the other hand, was much too valuable to be oppressed, while public opinion demanded from mill-owners, agents, and overseers that responsible care for its operatives which has already been described and discussed. Hence, in the factory, the rights of the mill-girls were strictly respected. They were subjected to no extortion. Their own accounts of labor done by piece-work were accepted. Though their hours were long, they were not overworked, and had plenty of time to sit and rest. Personally, they were treated with consideration by their employers, between whom and themselves a feeling of respectful equality existed. The best girls were invited, sometimes to the houses of the mill-owners or superintendents, at others by the clergy or deacons of the churches, and not a few of them married into the best families in Lowell.

At first the mill-girls had but small chance to acquire any book-learning. But, after a time, evening schools were established, while, in 1836, several of the larger corporations compelled every child in their mills under fourteen years of age to attend school for three months in the year. Some evening classes, catering for older pupils, were devoted entirely to one particular study. Thus there were geography schools, rhetoric schools, and schools for the teaching of composition and prose-writing, where a taste for literature was sedulously cultivated.

Meanwhile the girls lived in great boarding-houses belonging to

the various corporations, and kept by widows, women of known high character, who were often also the friends and advisers of their boarders. Each house was a community, where fifty or sixty young women from different parts of New England lived together like a great family. When not at work or at school, they sat in their chambers, talking and sewing, for all were their own dress-makers, or in some corner of the large dining-hall, reading, studying, or writing. Dickens speaks with astonishment of the home-life in one of these boarding-houses, where "there is always a piano, and nearly all the young ladies subscribe to circulating libraries;" but he was by no means the only distinguished writer who went to see for himself how the Lowell mill-girls lived, and told the world a similar story.

If I have said nothing as yet about the morality of the mill in those early days, that is because this could not be otherwise than pure in such an atmosphere as had been created at Lowell. The mill-girls were religious by training and Puritan inheritance, and upon entering a factory each one was obliged to sign a "regulation paper," which, among other things, required her to attend regularly at some place of public worship. There were, at one time, fourteen organized religious societies in Lowell, ten of which constituted a Sabbath-school Union, comprising more than five thousand scholars, of whom three fourths were mill-girls. On Sunday mornings the streets were alive with young women going or returning from Sabbath-school or meeting, and the spectacle of so many bright girls, in the bloom of life and holiday dress, has roused the enthusiasm of more than one European visitor to the "wonderful city of spindles and looms." The same regulation paper which commanded church attendance required every girl to be of good moral character, and if any one proved otherwise she was at once turned out of the mill. The standard of behavior was, however, so high that rules of conduct were practically dead letters, so markedly did the majority separate themselves from girls who were suspected of wrong-doing.

Society and communication, those best gifts of a great city, were just what these New England girls needed for the development of their native powers. They were omnivorous readers, some of them even students of the classical languages and mathematical science, and they discussed the books they read, debated social and religious questions, compared ideas and experiences, and generally advised and helped one another. Such, indeed, was the reputation of Lowell, at one time, that many girls came there as to an *Alma Mater*, leaving comfortable homes for the mill, not because it was needful for them to earn money, but in order to make use of social and literary advantages which could not be found in remote and secluded farmhouses.

At length the intellectual activity which had been fostered by evening-schools and lyceum lectures, by reading and discussion, issued in the publication of the *Lowell Offering*, with whose selected writings Miss Martineau made us first acquainted in her "Mind among the Spindles." The *Offering*, a very modest magazine, came to the birth in 1840, and died in 1849, a date which reminds us that the first wave of the great Irish emigration, following upon the potato famine, had already begun to rise in those New England mills, whence it was presently to sweep the higher type of labor almost entirely away. There is no need to speak of the literary merits of the *Lowell Offering*. Its articles were often crude, as a matter of course, but its pages were the nursery wherein Lucy Larcom and Margaret Foley, to say nothing of many less distinguished women, grew from literary childhood to rare maturity of merit. But there were some remarkable mill-girls at Lowell in those early days who were not writers for the *Offering*. One became an artist of note, another a poet of more than local fame, a third was an inventor, a fourth one of the best advocates of women's rights, a fifth the founder of a free library in her native town. Some became teachers and others missionaries, a great many married either professional men or storekeepers, and a few became the wives of clergymen and members of Congress.

Such was Lowell only forty years ago, and such might every factory town in America again become if its citizens were as sensible of their responsibilities, its mill-owners as conscientious, and its help as well-principled and intelligent as in the days I have just described. That foreign operatives can be raised to the old Lowell levels has been abundantly proved at Willimantic, nor would it be difficult to name many other American factories, both in and out of New England, where the condition of labor is almost as high as in these remarkable thread-mills. Nowhere, however, is this the case, unless employers are conscious of a heavy responsibility for the morality and intelligence of their people—a responsibility which they were compelled to keep in view when the mill-hands were all descendants of New England and Puritan ancestors, but which is apt to be lost sight of now that they are the children of poor and ignorant Irish and Canadian parents.

And what is the industrial condition of Lowell to-day? "Last winter," says the lady to whom I have already referred, "I was invited to speak to a company of the Lowell mill-girls, and tell them something about my early life as a member of their guild. I was the more willing to do this as I was anxious to ascertain the status of the successors to the early mill-girls. About two hundred of them assembled in the pleasant parlor of the People's Club, and listened attentively to my story. When it was over, a few of them

gathered around and asked me many questions. In turn, I questioned them about their work, their hours of labor, their wages, and their means of improvement. When I urged them to occupy their spare time in reading and study, they seemed to understand the necessity of it, but answered sadly, 'We will try; but we work so hard and are so tired.' It was plainly to be seen that these operatives did not go to their labor with the jubilant feeling that the old mill-girls used to have, that their work was done without aim and purpose, that they took no interest in it beyond the thought that it was the means of earning their daily bread. There was a tired hopelessness about them, such as was never seen among the early mill-girls."

The operatives of to-day have more leisure and earn more money than those of forty years ago, but they do not know how to improve the one or use the other. This is not because the germs of intellectual life were sown among the children of Puritan fathers and withheld from the compatriots of Grattan and Moore, Mirabeau and Racine, but rather because those were early taught, while these have never heard of, the dignity of labor. Hence, falling into an "inferior class," a thing, happily, unknown in old Lowell, the mill-girls of to-day feel none of the aspirations with which their predecessors put their feet on the first rungs of the ladder of learning, aspirations without which the road to knowledge is thorny indeed.

"These American-born children of foreign parentage are under the control neither of their Church nor their parents, and they consequently adopt the vices and follies instead of the good habits of our people. It is vital to the interests of the community that they should be brought under good moral influence, that they should have the help and sympathy of their employers, live in better homes and breathe a better social atmosphere than is now to be found in our factory towns. They need, in fact, to be lifted out of a condition of mental squalor into a higher state of thought and feeling.

"Meanwhile, manufacturing corporations, with a few honorable exceptions, no longer represent a protecting care for, or exercise a parental influence over, their operatives. They have become soulless organizations, whose members forget that they are responsible for the minds and bodies as well as the wages of those whose labor creates their wealth. It is time that they who gather riches from the factories of the country should again understand that they do not discharge their whole duty to their operatives by the monthly payment of wages, but they are also responsible for the barren and hopeless lives of their operatives, for their unlovely surroundings, and for the moral and physical degradation of their children. Would it not even be wise that employers should seriously consider whether it is better to degrade their people to the level of the

same class in foreign countries, or to mix a little conscience with their capital, and so bring the factory operative of to-day back into the lost Eden of the past?" So far one who is herself a daughter of the Eden that Lowell once was, speaking of the Lowell of to-day. Let us take a turn through the city streets and ask our own eyes whether they confirm or gainsay her testimony.

Lowell, a city of fifty thousand inhabitants, is perhaps more beautifully situated than any other industrial city in America. It lies upon the Merrimac River, among hills which enclose the town with a spacious natural amphitheatre, around one fourth of whose circumference the broad, sparkling stream makes a magnificent sweep. Back of this the hills rise steeply for several hundred feet, clothed with dense foliage, and crowned with crests whence one looks away to the blue peaks of the distant Green Mountains, or down to the great cotton-mills below. These skirt the right bank of the Merrimac with parallel lines of bastion-like buildings, whose regularity is frequently interrupted by the foliage of shade trees, which so embower roofs, steeples, and belfries that one seems to be viewing a city of gardens rather than a great industrial town.

The falls of the Merrimac, from which the motive power of the mills is derived, are dammed by a structure only a little less gigantic than that which controls the Connecticut River at Holyoke, and over its lip a broad stream of sparkling brown water pours in a graceful cascade, to ripple over a rocky bed below, towards the ocean. Water from above the dam is led to the various mills through a canal, the space between which and the river has been laid out with romantic walks, threading grassy glades, overshadowed by leafy maples. The suburbs are beautified by many charming houses, and as these, for the most part, lie upon high ground, whence the mountain views are many and fine, the dwellings of Lowell mill-owners and superintendents are unusually attractive.

But if "Little Canada," the French-Canadian quarter of the town, be an example of operative homes, then the Eden of forty years ago has indeed departed. Its streets are narrow and unpaved lanes; its rickety wooden houses elbow one another closely, and have no gardens, scarcely even back-yards. They are let out in flats, as at Holyoke, but are far inferior to the tenement-houses of that city, which, if they shelter squalid folk, are at least well built and convenient. Within these wretched dwellings, whose erection ought never to have been sanctioned by the authorities, the Canadians crowd, as they do in Holyoke. Peeps into interiors disclose dirty rooms and families pigging together at meals, or slatternly women and unkempt men leaning from the window-sills. The uncleaned streets are resonant with dirty, ragged, and bare-legged children, as true gutter-birds as any to be found in Europe. The picture speaks of nothing but

barren, hopeless lives for the adults and certain degradation for the children.

The Irish portion of the town has wider streets and houses somewhat less crowded than those of "Little Canada," but is of scarcely better, although different, aspect. Without being actually squalid, it has many of the repulsive features peculiar to quarters inhabited by ignorant labor. Slatternly women, of advanced and middle age, gossip in groups around the doorways. Young girls, tawdrily fine in dress, saunter along the sidewalks, or loiter idly from the windows, their hair shining with oil, their necks gaudy with flaring kerchiefs and gilt brooches, saluting passing friends and acquaintances. Knots of men, in their shirt-sleeves, are grouped about the bars of the frequent saloons, whose doors here, as everywhere else throughout New England, all exhibit Irish names. No signs of poverty are visible; on the contrary, an air of prosperous ignorance, satisfied to eat, drink, and idle away the hours not given to work, distinguish the Erin of Lowell from its more squalid Canada; but one hardly knows which of the two quarters will prove the more difficult field for cultivation by the social reformer.

The city, it is fair to say, exhibits other and more favorable views of operative life. The old boarding-houses remain, and many of them are excellently conducted. Although no longer centres of a vivid intellectual life, they shelter many worthy daughters of industry, who only want a helping hand to lift them nearer to the social levels of the past. But these girls are not Canadians or Irish, they are the remnant of native labor which still occupies a corner of every New-England factory. In the outskirts of the city, too, there are numerous pretty white houses, the homes of toil, where typical American families, not necessarily of native birth, are growing up amid healthy and morally wholesome conditions, and enjoying public advantages as great as those of Willimantic itself. For it must never be forgotten that, even where labor in America seems deepest in the mire, there, as everywhere else, the common and Sunday schools, the free library, and the church are always ready to lend a helping hand to those who have the courage to help themselves. These agents of improvement are as active in Lowell to-day as they were in the past, and it will not be because they have bowed the head to king *laissez-faire* if American labor degrades from its present condition in the future. The problem at Lowell, as at Holyoke, is not how to stimulate the energy or extend the influence of the state, the church, and the school, but how to make employers their earnest, active, and sympathetic allies.

And if, leaving Lowell, I were to carry the reader with me to Fall River, the Manchester of the United States, where matters are, perhaps, at their worst, or thence into a hundred other mills in addition

to those we have already visited, the same question would arise in every one of them. In another remote valley of manufacturing villages we should see labor again, as at Ansonia and Waterbury, scarcely preserving its old, unquestioned equality with capital, but intelligent, self-respecting, and respected "for a' that." At a new Holyoke we should find it down in the very dust, ignorant of its own dignity and careless of its rights, accepting the position of a mere wage-earner, without a protest, and a life of aimless, hopeless dullness, because it has never been taught that it is human. A second North Adams would exhibit it in arms against capital, fighting a furious battle over the division of profits, both sides accepting the position of antagonists as the natural one between hirer and hired, both employed in laying waste the field of their common industry. We might even surprise it, as at Willimantic, lion and lamb sharing an idyllic home, the distinction between master and servant marked, chiefly, by a superiority of character and conduct which it is the aim of one to diffuse, of the other to emulate. Or another community, such as we visited at Mount Lebanon, might receive us, whose members enjoy, in common, the fruits of the common toil, and where, but for the powers and passions of man, labor might seem to have reached the haven where it would be. Finally, we might be witnesses to at least one actual deed of partnership between lender and laborer, which, dividing with rough justice the profits of industry between all the parties to production, has made the prosperous manufacturing village of Peacedale, in Rhode Island, more than worthy of the name it bears.

Every case I have cited, or might cite, would, however, only emphasize, each in its own way, the question which is already before us—How is America going to treat a problem, formerly the curse and still the danger of Europe, and for which democratic institutions have confessedly failed to furnish the solution, once confidently but unfairly expected from them? Unlike the political fabrics of Europe, the American Republic is founded upon the sovereignty of the people, and it will prosper or perish, according as the mental and moral status of the sovereign people is high or low. The question whether labor in America will in future sustain, improve upon, or degrade from its once high condition, is one beside which every other national problem, social, religious, or political, is a matter of trifling moment, for upon this depends the destiny of the greatest state and the life of the most beneficent government which the world has ever seen.

CHAPTER XV.

THE FACTORY SYSTEM.

BEFORE we can come to a conclusion upon the grave question which has issued from our industrial experiences, another problem must be discussed and disposed of. The factory system is scarcely more than a hundred years old, but it has effected greater changes in the condition of the people, in commerce, in legislation, and in national policy than any other influence of the eighteenth and nineteenth centuries. Received in America, as we have already seen, with hesitation, and regarded with distrust because of its evil reputation in Europe, most people would probably agree that if labor in the States has degraded in recent years this has directly resulted from the introduction of manufactures. But off-hand judgments are rarely just, and there are many things to be considered before we can decide that the great and growing factory system is a power for evil, be it in Europe or America. Meanwhile, it is too late to inquire whether it ought or ought not to have been established, for established it is, and upon the same basis as modern commerce, or, in other words, as modern civilized life, with which alone it can perish.

Although it now embraces all the varied products of machinery, the factory system found its first application to textile fabrics, a circumstance which makes it easy to compare the new order of things with the domestic industry that characterized the operative life of the eighteenth century. If there was something idyllic about a picture of the old English weaver working at his loom, with his family around him carding and spinning wool or cotton for his use, that home of industry was very different in fact and fiction. Huddled together in a hut, whose living and sleeping accommodations were curtailed, by the tools of his trade, to limits which left little room for decency, the weaver's family lived and worked without comfort, convenience, good food, or good air. The children became toilers from their earliest youth and grew up quite ignorant, no one having yet conceived of education, except as a luxury of the rich. Theft of materials and drunkenness made almost every cottage a scene of crime, want, and disorder. The grossest superstitions took the place of intelligence, health was impossible in the absence of cleanliness and pure air, and such was the moral atmosphere of labor, that if

some family, with more virtue than common, tried to conduct themselves so as to save their self-respect, they were abused or ostracized by their neighbors.

It was under this system that there arose in England that pauper class, the reproach of civilization, which, once created, continued to grow until a fourth of the national income scarcely sufficed to support the nation's poor. Against the spread of pauperism, indeed, legislation and philanthropy seemed alike powerless, and the evil was only, at last, checked by the rise of those manufacturing industries which followed upon the inventions of Arkwright, Hargreaves, and Crompton, and the enterprise of men like Wedgwood. The influence of the newly born factory system alone prevented England from being overrun, during the latter half of the eighteenth century, by the most ignorant and depraved of men, and it was only in the factory districts that the demoralizing agency of pauperism could be effectually resisted.

It may, of course, be urged that no comparisons between domestic and factory labor are of any value, except in cases where the two systems exist side by side; and that the improvement which took place in the condition of English operatives, after the introduction of the factory system, was due to the general advance of civilization. But the two systems were simultaneously in force in France down to a very late period, domestic industry being, even now, the rule in the country around Amiens, while the factory reigns in the city itself. There, however, the rural workers have a very bad reputation as compared with that of the town operatives. Their homes are worse, and are worse kept; beginning work at no regular hour, they idle more and earn more precarious wages than do the factory hands, and they are inveterate drunkards.

It is easy to bring these facts to the test of figures. French factories are constantly increasing in number, and operatives are being, as constantly, drawn into them and away from the old system. Now, if the mill has an evil effect on morals, the percentage of crime in a locality where a change from the domestic to the factory system is in progress should increase as more people come under its influence. But the contrary is known to have taken place in the district already alluded to, where, between 1855 and 1859, the criminal list was reduced by twenty-five per cent., notwithstanding the fact that the factory population was, at that time, rapidly increasing at the expense of the domestic workers.

Economically speaking, it goes without saying that the new system is infinitely superior to the old one, while the previously unheard-of power and wealth that has sprung from it are not the sole property of any class or body of men, but are much more fairly shared than they were under the domestic system. Even the visionaries

who suppose that the craftsman gains in character and originality by isolation would hesitate to exchange the well-ordered factory of today for the squalid cottage industries and sin-breeding small shops of the last century.

Bad as the domestic system was, however, that which followed it seemed, at first, scarcely better than its predecessor. At the moment when the earliest cotton-mills arose in England, or about the middle of the eighteenth century, the country, as we have seen, was overrun with paupers. The action of the poor law, by penning the people into narrow districts, increased laziness and immorality in every parish union where the number of operatives was greater than the local demand for their labor. Agriculture took advantage of this state of things to reduce wages, as nearly as possible, to starvation level, while unemployed labor was driven into the workhouses. Meanwhile, there was scarcely a law upon the statute-books of England regulating the relations between master and servant, and the few which did exist were of a criminal character, enacting punishments for the most trifling misdeeds of the men, while the master retained the same arbitrary powers over labor as were bequeathed to him by feudalism. English cottages were, at this time, choked with the degraded sons and daughters of toil, children of the domestic system of industry, who, if they overflowed into the factory, were certainly better off there than in the workhouse.

Hence the new mills were, in the first instance, recruited entirely from a foul source, and great towns grew up, having populations brutal to a degree which it is hard to conceive. No sort of effort was made to improve the moral or mental condition of these people, no new parishes were created, no new churches were built, and of schools there were none, save the grammar-schools of Edward and Elizabeth. "There was no effective police, and, in great outbreaks, the mobs of London and Birmingham burned houses, threw open the prisons, and pillaged at their will. The criminal class gathered boldness and numbers in the face of ruthless laws, which only testified to the terror of society—laws which strung up twenty young thieves of a morning in front of Newgate; while the introduction of gin gave a new impetus to drunkenness. In the streets of London gin-shops invited every passer-by to get drunk for a penny, or dead drunk for twopence." *

Such were the disorders that made America hesitate before the introduction of a system which had, apparently, given them birth. They, however, were no true children of the mill, but of the vicious system of industry, and its accompanying pauperism, which had preceded it. With the first and chief parent of these evils, legislation,

* "A Short History of the English People" (Green).

if it had so desired, could do nothing, so long as it was intrenched in the Englishman's castle, his home ; while, with the second, public moneys and private charity struggled bravely but in vain.

But labor of this degraded and pauperized kind could not long be massed together without the abominations which hid themselves in a thousand obscure cottages being brought into the light of day. At first, indeed, it seemed as if capital might use the ignorance and disability of labor entirely for its own advantage. Succeeding to a feudal authority which the law still sanctioned, masters exploited their operatives in an extreme and unscrupulous manner, and a general crowding downwards of the less wealthy by the wealthiest seemed, for a time, imminent. But this process, which had all along been in unnoticed operation under the domestic system, could not fail to attract the public attention when taking place under more conspicuous conditions. Thus, not only did the factory system first acquaint the country with the degraded and morally corrupt condition of its working population, but it also called attention to the arbitrary character of law and custom in their relations to labor, and, presently, demanded improvement and reform. *Laissez-faire*, who was absolute king at this time, made a determined effort to preserve his vested right to do wrong if he were so minded, but two important events made common cause with the operatives and decided the struggle against him.

The doctrines of Adam Smith, published almost simultaneously with the rise of the factory system, had already furnished the country with a theory of labor and commerce totally new to the eighteenth century. Until the publication of the Oxford student's essay, in 1776, the trading classes universally considered that wealth meant gold and silver, and that commerce was best furthered by jealous monopolies. But the great author of the "Wealth of Nations" contended that labor was the one and only source of wealth, and that if this is to be most productive, it must work under conditions of absolute freedom. Pitt was the first English statesman who, thanks to his study of Adam Smith, realized the part that industry was to play in promoting the welfare of the world, and the public mind of his time soon became penetrated with the same pregnant idea. Thus labor, the mere drudge of the domestic system and the slave of feudal times, began to occupy a new position after the great economist had taught men to regard it as the supreme source of wealth.

Previously to this, however, and at the very moment that the state of the new factory towns was at its worst, a knot of Oxford students, revolting against the religious paralysis of the time, originated the great Methodist revival, which changed the whole tone and temper of the eighteenth century before it had much more than half run out. The passionate impulse of human sympathy to which the preaching

of Whitefield and Wesley gave rise was propagated with amazing force and rapidity throughout the length and breadth of England. Under its influence Wilberforce and Clarkson began their crusade against the iniquities of the slave trade, then the sheet-anchor of Liverpool merchants, and, supported by it, Howard attacked the abominations of the prison system. Labor, itself profoundly moved by the revival of religion, was not long without sympathizers in its degraded lot, who claimed the right of society to interfere, even in the private relations of master and man, if these were not based upon justice.

The first factory act, introduced by Peel, was, indeed, of little value to the operative, but it was important as an assertion of the right in question, and has been followed, especially during the last fifty years, by a great deal of wholesome restrictive legislation. Thus the right of a master to make a free contract with women and children has been abolished. Women may no longer overwork themselves, or children remain absolutely without education. The factory has been opened to public scrutiny, and subjected to penalties for being kept either in a dangerous or unwholesome state, while employers have been made liable for all preventable accidents to life and limb. This is not the place to speak of similar restrictions imposed upon the agricultural, mining, and shipping industries of the country; it suffices for my purposes to show that the factory is no longer the castle of its lord, but a quasi-public institution, largely under the control of public opinion.

It is most unfortunate for the reputation of the factory system that its origin should have been so impure, for this, together with the still low condition of labor, blinds many people to the fact that factory populations are, really, much more moral, as they are admittedly more intelligent, than other classes of labor. The French statistics already quoted are very much to the point in this regard, while others from the same source could be adduced to show that in certain textile districts of France the operatives contribute only five per cent. to the criminal lists. Similarly, Manchester, whose factory hands are usually, but unfairly, credited with all the crime of a city which is as much a trading as a manufacturing centre, is far less stained by the mill than is generally supposed. One of its recent penitentiary reports, for example, testifies that four times as many prostitutes are furnished to the streets from the class of domestic servants than by mill-girls, and a careful study of any criminal statistics will prove that jails generally are filled from other sources than the factory.

The last, indeed, lends itself, far better than any other form of industrial life, to improving and civilizing agencies. For a mill, after all, is but an embodiment of the principle of association, the

only possible basis of civilization, and the source of every improvement in the condition of man. Association, however, cannot unite even two human beings without giving birth to division of labor; for, of two savages, for example, seeking a common subsistence, it will be found more convenient if one does this and the other that. The family, the tribe, and the nation are all, obviously, children of association, but so are commerce, the arts, science, literature, philosophy, nay, even the Christian virtues themselves, which were begotten of human intercourse before they were taught by authority.

The mill, indeed, is simply an establishment wherein association turns its attention to production, and seeks to supply given wants with the least possible expenditure of energy. Precisely the same principle binds men together for the performance of every human task, and even if the Master's words, "Bear ye one another's burdens," are rightly read, for works of the spirit as well as of the flesh. Thus, the factory system is founded upon the same rock as the edifice of human life itself, and if, like human life, it is full of shortcomings, that is the fault, in the one case as in the other, of conduct. Its organization is as capable of that kind of improvement so happily termed "growth in grace" as the human heart itself, for where men are most closely associated, there, if any one will teach, it is easiest to learn, because most possible to practise, the lessons of the Mount.

We sometimes hear "the masses" and "dense populations" spoken of in terms which imply that certain evils of society do actually arise from the mere aggregation of a number of human beings, or, in other words, that there is a point where the admitted blessings of association become curses. But great operative cities are not wicked because men are overcrowded; they are overcrowded because men are wicked; and the factory system which brings these numbers of people together is not only blameless of such evils as arise among them, but, where the social reformer is active, it makes the work of improving and civilizing easy. What could the "captain of industry" who leads the forces of labor at Willimantic do for the improvement of his people but for the factory? What does he not do with its assistance? Think of the effectiveness which this lends to his libraries and schools; of the economies it gives birth to in his stores; of the number of healthy and happy homes it has enabled him to create. Consider the amount of mental friction which accompanies the congregation of girls in the class-room and of men in the reading-room, and picture the lives which his sixteen hundred workers, representing a much larger community when the families are added to the hands, would have led under the domestic system of industry. How far could Colonel Barrows' light have shone over a turbid sea of labor, such as that of the eighteenth century? How

many human ships, freighted with souls, may it not have saved from wreck and guided into a safe harbor at Willimantic?

Every factory in Europe or America could be converted into a humanizing agency, such as Willimantic is, and it would pay owners, to say nothing of their hands, for them all to become so. Money-mills of to-day might all be "mills of God" to-morrow, producing intelligence and morality, with the least possible expenditure of civilizing effort, because of the assistance that association lends, whether to the making of morality or of cotton goods. In England public opinion has made the factory system the happy father of popular education, which could not help following upon the compulsory schooling of operative children. The same beneficent agent has stripped the workshop of all oppressive, unwholesome, and dangerous features, and future legislation may be trusted to respect the future wants of labor which respects itself. In spite of a bad beginning and early maladministration; in spite of a low condition of labor and lower conceptions of its claims, the factory system has benefited the English operative as no other form of industry has done. Only one thing is wanting to make it take rank, not as the parent of untold evils, but as one of the most powerful civilizing agencies of the nineteenth century. That want is one of the oldest in the world, and one of the hardest to fill. It is Men. "Captains of industry, the true fighters, henceforth recognizable as the only true ones; fighters against chaos and the devil, leaders of mankind in this, the great and alone true and universal warfare."*

Something must be said in answer to those who urge that the subdivision of tasks is accompanied by an abasement of intelligence, and who accuse the factory of destroying originality and force in the craftsman. This abasement is presumed, not proven. To establish it, one must show that the hand weaver, who himself throws the shuttle and rocks the loom, is superior to the machine weaver, who merely assists, without producing the double movement. That Hodge, sowing seed broadcast, and swinging the scythe or flail, is a more intelligent being than Hodge, tending the drilling-machine, driving the mower, and feeding the steam thrasher. Men who know the facts are of quite the opposite opinion. They who have co-operated in the displacement of manual by mechanical power, in any department of industry, are painfully aware to what an extent all such efforts are handicapped by want of intelligence in the labor at command. The object of machinery is to ease human muscles, not to spare human brains, from which, indeed, it asks severer service in return for the benefits conferred on the body. Visionaries who contend that the most imperfect machines, those, that is to say,

* Carlyle.

which demand the greatest muscular efforts, are they which most sharpen the intellectual faculties of the laborer, may well be left alone with their own logical petard.

So far as unskilled labor is concerned, the factory is, in truth, an elementary school, open to the lowest grade of operatives, ready with promotion into successively higher classes for all moderate merits and capacities, and offering valuable prizes to exceptional intelligence whenever this is accompanied by the humbler moral virtues. But for his own schoolboy experiences, the casual visitor of a school could not realize the progressive character of this institution. He sees boys reading here, writing there, and ciphering elsewhere, and if he returned in a year, or in ten years, he would find the same three monotonous R's in process of absorption. Nothing would indicate that many pupils had passed steadily up through all the classes, or that some had left the school for the university. Only the schoolmaster and the scholars could know what a complicated series of changes, dependent upon growth, capacity, and character, had taken place in the meantime. Similarly, the average mill visitor, having no industrial experience, cannot possibly realize that progression is taking place where this is not apparent to the eye. He sees operatives engaged in various monotonous tasks, as he might observe schoolboys struggling with "pothooks and hangers," but, while he knows that the scholars will one day write, he pictures the factory hand as bound to the same spoke of the wheel of toil for life. Mill-owners and mill-hands, however, like the schoolmaster and his pupils, know that the factory is no home of stagnation. On the contrary, it is a little world, where, even more easily than in the great world, industry and intelligence make their own way to the front, and secure their reward. If the idle and incompetent continue to gird and grind at the same tasks, so do the backward boys at school, and "duffers" everywhere, but that is not the fault either of the factory or the school system.

So much for the influence of the factory upon what is called unskilled labor; let us now see how the matter stands with the "craftsman," that somewhat fanciful being, about the loss of whose force and originality some people are so anxious. Nowadays we call the craftsman a mechanic; a presumably past-master in one of the mechanical arts, such as carpentering or masonry, moulding or fitting. The fitter, or "engineer," as Americans always term him, stands confessedly at the head of all modern operatives, and there is no other craftsman who has been so profoundly influenced by the factory system. Carpenters, bricklayers, masons, and many other high-class artisans have remained, so to speak, outside the mill, while the engineer has become its very soul. Let us inquire, then, what the factory system has done for this, the most highly factorified, highly endowed, and highly paid craftsman of the present day?

The question answers itself. The chief of the operative class is himself the son of the factory system, for this, if the elementary school of unskilled labor, is the *Alma Mater* of the nineteenth-century artisan. Gathering its students, whether from the mill itself, or the industrial world outside it, and developing their natural abilities with extraordinary success, in spite of deficient education and foolish trade-society rules, the factory has given birth to an army of mechanics—call them craftsmen if you will—far more highly skilled than any of their predecessors.

The rare Brindleys and Telfords, who led the way to conquest over nature in the last century, were captains of industry without a disciplined army at their backs; generals whose plans, modest as we think them, were scarcely possible of accomplishment, because the craftsman was, as yet, little better than a laborer. If England now talks of spanning the Forth and tunnelling the Channel; if America determines to throw yet another three thousand miles of rails across mountain ranges and deserts; if France prepares to join the Atlantic with the Pacific, not only are there able leaders at hand for all these enterprises, but they march to an assured success because mechanics, the soldiers of civilization, are an army of veterans now, as they were a handful of raw recruits in Brindley and Telford's time.

This is the direct result of the factory system, to which, indeed, we owe our great mechanicians as well as the men who follow them. Machinery is only embodied thought, and from among the many who execute arise the few who scheme. Such a one is the inventor whom, at the very outset of our journey, I typified under the name of the "Connecticut man." Him, if I may venture to quote myself, I described as having his home in the factory, and living surrounded by the most refined examples of modern machinery. "Here he observes, alters, amends, and schemes. The pulsating and quasi-living beings about him are his children, whom he loves, and his companions, who stimulate him to further productive efforts. The thousand and one wants of the world offer him a boundless field for his creative powers, and, silently brooding, he brings forth, now and again, another wonderful automaton, as a poet produces a verse or a musician a melody."

Abasement of the workman, indeed! Only the mentally short-sighted, or blind, could fail to see that there are "embodied thoughts" in every cotton-mill, pin-factory, and clock-shop we have seen, to say nothing of the greatest examples of modern mechanical genius, which bear the same relation to the craftsman's work of earlier centuries as man's reasoned conclusions do to the chatter of a child. All these are the offspring of the factory system.

At length we may ask, with some hope of guidance to a trust-

worthy answer—What will be the future of labor in America? That it has very generally fallen from the high estate it occupied when the factories of New England were filled with the children of equality and enlightenment no reader of this volume can doubt, and no candid American will deny. It has been conclusively shown that the introduction of manufactures is not responsible for the present state of things, which is, indeed, directly traceable to the displacement of native American help from the mills by the introduction of foreign operatives. Thus, the labor question of to-day in New England is of exactly the same character as that which confronted Old England at the time when the change from the domestic to the factory system of industry took place. American mill-owners, however, have not to do battle with the crime and brutality of that day, but only to conquer the illiteracy and political apathy of alien labor. We ourselves are still challenged by similar but native foes, but, low as our labor conditions remain, they were once infinitely worse. Fifty years of factory legislation and twenty years of popular education have accomplished considerable results in England, where, unhappily, few sympathize with the claims of toil, scarcely any desire to give it an honorable position, and only once in half a century an Owen or a Salt affirms what labor administration should be, and shows what the factory might become.

Matters are different in New England. The legislature busies itself actively with the concerns of labor; Massachusetts, the chief manufacturing state, maintaining a special bureau, which keeps every question bearing upon the welfare of the operative well before the public, makes itself a terror to evil-doers, whether masters or men, and plentifully supplies the social reformer with pregnant and authentic facts, gathered with infinite pains, to form the basis of law-making. As for the New-Englanders themselves, I have written to no purpose if my readers do not realize that nowhere in the world does there exist a more enlightened people, greater lovers of freedom, greater friends to education, greater honorers of industry. These all desire to bring the foreign laborer under the influence of the public institutions of the country, political, religious, and educational; to "make Americans," in short, of Irish, Canadians, Teutons, and Scandinavians alike.

And the "Captains of industry," upon whom, more than upon state, school, church, or people, depends the future status of their foreign help—what are they doing? Some, as we know, have already heard the call, "Arise, save thyself, be one of those that save thy country." Willimantic does not stand alone. The Cranes at Dalton, the Cheney's at South Manchester, Mr. Lock at Waterbury, the Fairbanks at St. Johnsbury, Mr. Hazard at Peacedale, and Mr. Pullman at Lake Calumet—these have all followed the "Godlike

stirring" within them, and made their factories worthy of the self-respecting labor which they have created. If I do not name many other similar establishments, that is only for want of personal acquaintance with examples of a movement that is spreading rapidly in the States, and outstripping, wherever it occurs, the combined work of the pulpit and the school in the service of humanity.

And this movement will gain force as it goes. Outside the simply luxurious classes, more conspicuous in New York than elsewhere, a true idea of the function of wealth has arisen in America, where it must be remembered that there were practically no rich men previously to the war. In New England, particularly, the responsibilities of the rich are being constantly insisted upon, and as constantly acknowledged in a variety of ways, of which the model factory is one and the gift of free libraries to cities and towns another. New England, the heart of America, conceives that man the richest who, having perfected his own life as far as in him lies, exercises the widest influence for good, whether by his character or his money, over the lives of others, and that nation the richest which contains the greatest number of noble and happy human beings. To the action of this belief, which, in spite of dollar-worship, moulds, as I believe, the conduct of an increasing number of lives in New England, we may, I think hopefully, leave the future of American labor, dark, by comparison with earlier conditions, as its present seems.

CHAPTER XVI.

LABOR, WAGES, AND THE TARIFF.

It would be unsatisfactory, not to say absurd, if, after spending so much time in the workshops of New England, we left them without a word about American wages. That word has, however, been purposely postponed, because the question of wages in America is too intimately mixed up with that of protective duties for either to be separately discussed, while, hitherto, it has been convenient to avoid talking of the tariff at all.

Labor in the United States has been sedulously educated, both by public men and the press, to believe that protective taxation makes wages high, while the employers urge that, having to pay high wages, they must be protected from foreign competition in order to prosper, or even to live. The protective legislator promises to satisfy both parties with one measure, but as he cannot make wages low, and it would sound badly to talk of making prices high by means of taxation, he affirms that, after all, tariffs lower prices. Hence arises a paradox, which astonishes and even confounds the industrial inquirer in the States, where he finds employers asking for a law that will presumably raise wages, and producers for a measure intended to lower the prices of their products.

The idea that wages are determinable by the tariff is the cornerstone of American protection. The operative fully believes that his prosperity is bound up with the protective system. The farmer, anxious, above all things, for the greatest possible number of well-to-do customers, lends his support to proposals for making the artisan rich by act of Congress. Capitalists, becoming manufacturers from ostensibly patriotic motives, declare their desire to keep wages at such a level as will enable labor to live at some assumed standard of comfort, due to the dignity and self-respect of the American artisan. In return, they ask to be protected from foreign competition, and, while posing as benefactors to their country, whose interests, in the public opinion, demand that America should become the home of manufacturing industry, are abundantly rewarded by the power to fix their own prices in a close market.

It is, however, easy to show that wages in the States are determined, not in the factory, but on the farm; not by protection, but

by free trade. Out of a total population of fifty millions, there are seventeen and a half millions of workers in the United States, the remainder being dependents. Nearly eight millions of the workers are engaged in agriculture, and less than three millions in manufacturing industries, while of the total produce raised by the former class two thirds is consumed in the country, and the remaining third, representing almost the whole foreign trade of the States, is exported. The prices which these surplus exports realize are clearly determined in the markets where they are sold, of which Liverpool is the chief, and they will be high or low according as the harvests of the world are good or bad. Similarly, the wages which can be paid to American labor engaged in the production of food-stuffs must depend on the amount of money obtained in exchange for them, and as the great majority of workers are so engaged, their rate of wages will regulate those in every other branch of business. Wages, like water, seek a level, and labor will quit the field for the workshop, or the workshop for the field, as this or that pays best. Thus agriculture is the paymaster whom American manufacturers must outbid, and agricultural wages are determined in the free-trade markets of the world.

A glance at the condition of industry in America vividly illustrates this conclusion. A population, still very sparse, is, for the most part, engaged in gathering where it has not sown. Any man with a few dollars and a strong pair of arms can win far greater rewards from the cheap and fertile soil of the States than he could possibly obtain by the same amount of effort in Europe. His wages are high because the grade of comfort to be obtained from the land by a little labor is high, and the artisan's wages must follow suit if the immigrant is to be tempted from the field into the workshop. But the politicians would have us believe that American labor owes its prosperity to taxation; in other words, that the immigrant comes seeking to enjoy, not the rich prizes with which the untouched earth rewards his toil, but the blessings that flow from a prohibitive tariff which adds an average forty-three per cent. to the cost of every human requirement except food.

Turning from so transparent a sophism, let us now look at the notion that high wages make protective taxes necessary to the prosperity of all, and to the very life of some manufacturing industries in America. The obvious answer to this proposition is that wages are only one item among many in the cost of every manufactured article, and a manufacturer who cannot pay the current rates of wages without loss is misapplying his money, while the law does a serious injury to the community by making it contribute to keep such a business on its legs. If wages and profits always displaced each other, and no employer could make profits if he paid high

wages, this would be equivalent to saying that America would do better to avoid manufacturing altogether and stick to selling her high-priced agricultural labor in foreign markets, where she can obtain the results of two days' toil in exchange for that of one. Every American, indeed, would be ready to admit, in general terms, the truth of this elementary position, but, being extremely anxious to make his country independent of others for the supply of all her wants, he would deny its applicability to the United States. So far as it is concerned, he would aver that, although it suffers at first, the community gains at last, by nursing industries which, after they have learned to run alone, will represent an increase in the national wealth and power.

Now it is evident that no industry can ever run alone in America so long as her wages are higher than those of Europe, if, as almost all Americans appear to believe, the question of who can compete with whom is one of comparative wages only. But there is, in truth, no such simple relation between wages and profits, for the latter depend upon a large number of conditions of which labor is only one. Both may be, and generally are, high or low together, capital and labor each earning more money in good and less money in bad times. It suits American protectionists to shut their eyes to this fact, one of the commonplaces of commerce, while they cry, "We cannot compete with the pauper labor of Europe." Yet the competitor they most fear is England, who, with wages higher than those of any country on the Continent, distances all her European rivals in cheapness of production. In the same way, the American farmer, paying very high wages, and handicapped by the cost of transport, beats the "pauper labor of Europe" in its own markets, certain conditions, of more moment than wages, being favorable in both these cases.

There is, in fact, no more untrustworthy guide to the relative cost of any products than mere comparative statements of wages. Protectionist zeal takes care that these, whether accurate or not, shall abound in the public documents of the States, and they are constantly appealed to as unanswerable arguments in favor of protection. But zeal, as usual, proves too much, or whence the hope that manufactures will, some day, run alone in America? This comes from the conviction, whose expression all the clamor for protection cannot stifle, that the possibilities of American manufactures are not bounded by the price of labor alone, but are largely influenced by other considerations, upon which, however, it is not the interest of capital to enlarge.

How important these considerations sometimes are will best appear from an illustration. The reaping-machine is one of the most labor-saving of all farm implements, accomplishing the work of

twenty men using the sickle. All the grain grown in America is cut by the reaper, as a matter of course, and if we suppose that the hired man who tends it is paid three times as much as an English farm laborer, there is clearly room to save a third of twenty, or, say, six out of every seven pounds paid for his harvest by the English farmer who does not employ a machine.

That the use of the reaper is much less common, and the cost of harvesting consequently greater in England than in America, is the direct result of the low price of agricultural labor in the latter country. The Western farmer cannot afford to reap by hand, but such of his British *confrères* as use the sickle are tempted to be lavish by the very cheapness of the labor at their command. They know that a reaper costs considerable money, but do not realize how much it saves. They know that the machines must be tended by intelligent men, but they dislike the trouble of either finding, training, or themselves supplying the required skill. Meanwhile, vaguely thinking of labor as "cheap," they end by paying six times as much for a given service as the farmer whose labor is dear. Here, then, is an instance in which any calculation as to the relative cost of harvest in England and America, based upon the difference between agricultural wages in the two countries, would be totally fallacious—nor does the case stand by any means alone.

It might well be supposed that if two competitors have equal access to a given labor-saving appliance, both would seek to obtain the same advantages from it; but, in practice, the cheap-labor man is always behind the dear-labor man, whether in the invention or application of labor-saving devices. There are, indeed, certain industries, such as the textiles, whose machinery, English in its origin, has been so long perfected, if machinery can ever be called perfected, that they might seem independent of this rule, but facts can be adduced which favor its application even to exceptional cases of this kind. The textiles, however, do not employ quite two and a half per cent. of the whole working population of America, and should not be allowed to prejudice the case of free trade so long as, aside from them, American manufactures generally offer a boundless field for the cultivation of economy.

Meanwhile, we have already seen how warmly the American mind welcomes improvement; we know that the Connecticut man, our typical American mechanic, lives chiefly to save labor, and that labor appreciates the value to itself of the mechanic's function. In England these characteristics are replaced by the love of the "ancient ways," by the schemer fettered with trade-society rules, and by operatives who dislike all labor-saving appliances because they "make work scarce." Surely these considerations must count for something in estimating the relative cost of English and American pro-

duction, while they would become still more weighty if the contrast lay between the States and other European countries. Further than this—my sketch of native labor, which, after all, leavens the foreign lump, must be very faulty if it fail to make the reader realize the high principles, temperate habits, and unusual ardor of the American operative. His principles compel him faithfully to keep the bargain he makes for the sale of his labor; he is a steady worker because a temperate man, and his ardor gives him a remarkable interest in whatever he undertakes to do.

Such were the considerations which suggested to my mind that American wages, if nominally fifty per cent. higher than those of England, might perhaps effect fifty per cent. more work, and, thus measured by production, the only true test of value, prove to be really no costlier in the one country than the other. The following example will demonstrate that this is, sometimes, at any rate, the case, and that, in spite of the "pauper-labor" cry, many mechanical industries are actually carried on in the States with as much advantage as in England, so far as labor is concerned; a more skilful organization and more active workmen redressing the economical balance which would otherwise be overweighted by high wages.

Agricultural implements form an important branch of manufacture in America, where a brisk demand for these tools is met, by a keenly competitive supply, which has brought prices considerably below English levels. Having an intimate personal acquaintance with the cost of such goods in England, I gratefully welcomed the access which the extreme kindness of friends, the owners of a famous American implement factory, gave me to certain figures, usually quite inaccessible to outsiders, which completely confirmed my surmises.

I was thus enabled to make an accurate comparison between the cost of production in America and, in England, and that in an industry which employs so many different classes of mechanics that my conclusions may very properly be extended to a number of other manufacturing establishments. The comparison may further be relied upon as absolutely fair, the goods in both cases being practically identical, and the English cost of production standing as low as a very large output, skilful management, and a strict piecework system could make it. Such are the circumstances under which I found that, measured by production, and not by the day-wages rates, English and American labor values are practically identical, the fractional difference being actually in favor of the American maker.

The skilled artisans in the factory in question, working by the piece, earned each an average of four pounds a week, while the unskilled laborer received thirty-three shillings a week day-wages. In the English factory with which it was compared, while a few men,

holding the position, so to speak, of contractors, and paying a number of under hands, made four and even five pounds a week, the average rate of wages earned by skilled and unskilled labor together was no more than one pound per man per week.

In view of these figures, and carefully keeping actual costs out of sight, the American protectionist might easily catch uninstructed ears with the hollow cry, "We cannot compete with the pauper labor of Europe," while, as a matter of fact, not only is the concern in question making agricultural machines as cheaply as any, and more cheaply than some English houses, but exporting them to this country, where, selling at the current prices of similar goods, they realize more than they do in the States.

Trustworthy comparisons of this kind are, from the very nature of things, extremely difficult to obtain, but one such reaches a long way, while there are abundant indications that, thanks to the causes already set forth, many American makers are quite able to compete on equal terms with their foreign rivals, even in goods whose cost consists chiefly of labor. There are now settled in London several American merchants, who import hundreds of different Yankee articles for home and colonial consumption, and these not mere trifles, like apple-parers and cheap clocks, but such essentially English specialties as machine-tools for the use of engineers, the produce of highly skilled labor. Every maker, indeed, with whom I talked in New England, the textiles excepted, was either already an exporter to a small extent, or confident of his power to become so if he "could only get his raw materials free of duty," and almost feverishly anxious for a "wider market."

The fact is that, already, America begins to find where the shoe pinches, and to suffer for her self-imposed isolation from the markets of the world. Her wages, measured by production, being, as we have seen, by no means burdensome, it will readily be understood how lucrative the protected industries must have been before prices were moderated by competition, and how eagerly capital would therefore rush into them. This it did, often without technical knowledge, and always with little care for economy, because inordinate profits were upheld by duties which, giving to gatherers who had not strewn, made careful management needless.

The results are already visible to the most superficial observer of commercial affairs in the States, and may be illustrated by the typical case of the American Screw Company. This great concern, which makes almost all the wood-screws used in America, cannot establish a foreign trade because of the duty upon its raw material, wire. Labor is not a burdensome item in the cost of production, for screws are made by automatic machines, of which one person tends a greater number in Providence than in Birmingham, but the con-

cern has to pay forty per cent. more than the European market-price for its wire. This was a matter of little consequence to the company so long as it had few home, as it has no foreign, competitors, because the profits earned during that happy period were enormously high. It is even said that the mill in question once kept nothing but a cash account, paying for its materials, as it paid for its labor, once a month, in dollars, and dividing the balance of profit, which was enormous, also in hard cash, monthly. Such a state of things could not last very long, and, in the course of time, capital, anxious to share in the plunder, built no less than forty screw-making works in the States, of which, after an internecine struggle, only fourteen survive to the present day, these, together, being more than able to supply all the home demand for wood-screws.

Internal competition has, indeed, begun its inevitable work. Even the American market is not infinite in capacity, especially for goods at protective prices, so that, of the numerous mills which the desire to share in protected profits called into being, many are now shortening time, while others are "shutting down" altogether. "Over-production" is a word in every maker's mouth, the desire for a foreign market in every maker's heart, while industrial America is, at the present moment, preparing to wait, idly and gloomily, for the wants of the country to reduce her surplus stocks.*

But, the philosophic few apart, men who sigh for wider markets approve the duties which bar them from those markets, saying, "See how prosperous we have been under protection!" while they whisper despairingly into the ears of free-trade visitors, "If we could only have our raw materials free!" Bemoaning the loss of their old profits, which they attribute to the tariff, they fully understand that something must be done to secure new markets, while they fail to see that protection has itself killed monopoly, "the goose which laid the golden eggs."

And now, what are "raw materials"? Sheet brass for the clock-shops, and wire for the pin-shops, of the Naugatuck valley; leather for the bootmakers of North Adams and Lynn; wood-pulp for the paper-mills of Dalton and Holyoke; iron and steel for the great gun-shops of Hartford, which already, in spite of "dear labor," supply the world with rifles, and so on in every other industry. But these things are not raw materials, they are manufactured products, to ask for any one of which duty free is a very lopsided kind of protection, while to ask for them all duty free is free trade. If the mill-owners of New England were, all together, to proclaim upon the house-tops that nothing short of free raw materials will rescue them

* This was written several months before the occurrence of the financial crisis of May, 1894.

from the dangerous position into which internal competition has brought them, the American tariff would forthwith begin to dwindle, and American manufacturers take the first steps towards those open markets for want of access to which the trade of to-day is languishing.

That I am not speaking in figures upon the stagnation of American manufactures, let figures themselves declare. The progress of manufactures in any country can be more accurately measured by the statistics of the coal trade than by any less comprehensive gauge. Tested in this way, protectionist America makes a poor showing beside free-trade England, for while the coal product of the latter country increased by fifty per cent., comparing the decade ending in 1880 with the decade ending in 1870, the output of coal in America actually diminished during the same period.

Why, then, does not the American maker, than whom no shrewder man exists, cry aloud for that which, with many protestations of being no free-trader, he tells you, *sotto voce*, he needs—raw materials free? Because, and here we return to the point whence we started, labor will not have it. The working-man in the States has been sedulously taught, as we have already seen, that the tariff lifts his lot high above that of the "pauper labor" of Europe. He does not know that the distance dividing these levels is narrower than his teachers tell him, but their doctrine is so seductively simple that, buttressed by selfishness, it holds a very strong position in the popular mind. The "pauper labor of Europe" was a splendid text for capital to preach from, when a high tariff meant inflated prices and enormous profits for all kinds of manufactured goods; but internal competition is rapidly changing all that, and will change the protectionist's gospel itself ere long. In strict proportion to their eagerness for foreign markets, American manufacturers will presently realize that they possess advantages, in readiness to learn, quickness to adapt, and skill to organize, over every other nation in the world, while the labor they command is high-principled, intelligent, and industrious in no common degree. Men with such cards in their hands will not hesitate to sit down for a commercial rubber with Europe when protected manufacture has degenerated, as it is already rapidly doing, into a game of beggar my neighbor.

The real trouble will arise with labor, which will not leave the fool's paradise in which it now lives until wiser men than its old masters have taught it that to remain means industrial ruin. The first step, however, towards effecting a change in the attitude of America towards the tariff is, fortunately, easy. The great mass of labor employed in agriculture in the States seldom stops work to reckon how much it pays for the fancied purpose of keeping the national wages at a high level. A little treatise on "The Western

Farmer of America," by Mr. Augustus Mongredien, should be in the hands of every American agriculturist, and its vigorous sketch of what the tariff really does for him before every farmer's eyes. Summarizing this economist's figures in a few sentences, we learn that the average annual expenditure of the agricultural population of America is about seventy millions sterling. Of this sum, however, only fifty millions produce an adequate return for the money spent, the remaining twenty millions being squandered in paying, at the rate of fourteen pounds instead of ten, for all the commodities of life. A yearly loss of twenty millions, amounting to twelve pounds per annum individually, does not, of course, destroy the farmer's profits, but is a very serious national loss nevertheless.

And, incredible as it may seem, this money is as absolutely wasted as it would be in hiring an army of men to dig holes and fill them up again. Apart from the cost of its collection, towards which the farmer contributes a million, all the rest is handed over to the manufacturers of the Eastern States, whose very claim for protection, which the country admits, is a denial of inordinate profits. Thus, the farmer spends twenty millions a year in trying to enrich the manufacturer, who, instead of being benefited, suffers with his would-be benefactor a proportionate loss on his yearly expenditure, from exactly the same causes.

Great as the evil is, its removal is easy, but the remedy lies in the hands of the farmers. They have simply to say to every candidate for Congress, "Will you vote for a reduction of five per cent. every successive year on the import duties till the whole are abolished?" The voting power of the farmers is overwhelming. Scarcely knowing their own strength, they are the backbone of the republic. They own most of its soil, they have created most of its wealth, and they form the most numerous and influential body among its population; it is only for them to signify that they will no longer bear the unjust burden of protective taxation, and it will melt away.

What would be the result of this upon the manufacturing interests of the country? Let one of the most eloquent free-traders in Congress, Mr. Hewitt, the member from New York, reply to this question. "The transition," from protection to free trade, "may be made gradually and naturally, but if we continue to dam up the stream of progress, it may come accompanied by a convulsion that will shatter the very framework of our society. If the change is provided for by intelligent legislation, we shall begin by exporting our coarse cottons, as we did before the war; we shall extend the foreign markets for our admirable products of steel and iron, and gradually supplant England in the markets of the world with the productions which we can turn out at a less cost in labor than will be possible for her to do, after paying freights on our raw cotton and our food. The

primacy of industry will be transferred from the Old World to the New, and this without impairing our ability to pay the higher rate of wages due to cheaper food, lower taxes, and greater personal intelligence in work." *

This is no illusory anticipation, and, concerned as we now are solely with America, it is important enough to turn our thoughts for a moment to English interests. It is impossible not to foresee that the United States will, in the end, become the greatest manufacturing country of the world, although the result may be immensely retarded by the endless evils which spread like weeds over a country where protection has long prevailed. But, sooner or later, the day will come when American enterprise shall enter, unshackled, the markets of the world, and, plume ourselves as we may on the fact that, in spite of hostile tariffs, we send yearly twenty-five millions of manufactured goods into the States, while they only return us three millions, that will be a black or a bright day for England, as we ourselves shall make it. Mr. Hewitt's last words are a warning. If, when America adopts free trade, we have not gained that "greater personal intelligence in work" which it is one of the objects of this book to show that she already possesses, then, indeed, it may be feared that the industrial supremacy of the Old World may pass into the hands of the New. Let us look to it, while the battle of free trade rages across the Atlantic, as rage it soon will, that we import some American readiness and grip into our board-rooms and offices, some sense of the dignity of labor into our workshops. It is not cheap coal, as it is not cheap labor, that gives us our present industrial supremacy in Europe. This is the child of intelligence applied to production, and our cheaper labor will avail us no more against the coming transatlantic competitor, when his native wit has been sharpened by free trade, than that of Europe avails her against ourselves.

To return, and to conclude with the question—What is likely to happen if America delays too long to reform her tariff? Mr. Hewitt shall answer again, "Our capacity to produce is now fully equal to our wants, and in most branches of business there are already indications that the demand is not fully equal to the supply. If, when the surplus comes, it cannot get an outlet, then it will not be produced; a portion of our labor will be unemployed, and no increase in the tariff, not even if the existing rates of duty were doubled, would provide an adequate remedy in such an emergency. Should these circumstances coincide with good harvests abroad, we shall have a great surplus of food upon our hands, and the price will fall; wages will go down with the fall in price; the reduction of wages

* Speech of the Hon. A. S. Hewitt, delivered in the House of Representatives, March 30, 1882.

will be resisted by strikes and lockouts; the conflicts between capital and labor will be reopened, and have indeed already begun; the prosperity of the country will be arrested; there will be a dearth of employment all over it; the volume of immigration will fall off, and the career of expansion and general development will be brought to a disastrous conclusion; the sad experience of 1873-79 will be repeated until, passing through the gates of suffering, poverty, and want, the products of the country, weighted as they are with obstructive taxes, which must be deducted from the wages of labor, will force their way into the open markets of the world in spite of the tariff. We shall then reach the era of free trade, but upon conditions which will deprive this generation of workmen of all the benefits they would have derived from it if the way had been properly prepared for its final triumph. Free trade must come, and, with wise statesmanship, the transition may be made, not only without disaster or suffering, but with immense benefit to the general welfare. With a failure to comprehend the situation, however, it will come through convulsions and revolutions, from the suffering and horrors of which I prefer to turn away in silence.

"But there is one aspect of the case to which I cannot shut my eyes. The whole structure and genius of our government must be changed to meet the primary necessity which will thus arise for preserving social order. With the general occurrence of strikes and lockouts will come, as in the case of the railroad riots in 1877, the demand for the presence of troops, force will be met by force, a larger standing army will be demanded by public opinion and conceded by Congress, and the powers and rights of states will be subordinated to the superior vigor and resources of the national government. With a large standing army, acting as a national police, under an omnipotent executive, the era of free government will have passed away, and all that freedom has gained in a thousand years by the heroic struggles of our forefathers, or our own resistance to tyranny in the New World, will be put in peril. Such a calamity can never come about except by the people of this country, and their representatives on this floor, failing to comprehend the spirit and neglecting the warnings of the time."*

* Speech of the Hon. A. S. Hewitt, delivered in the House of Representatives, March 30, 1892.

CHAPTER XVII.

BOSTON.

AN Englishman arriving for the first time at Boston is conscious of very different emotions from those with which he first beholds New York. Here, from the moment of landing to leaving, everything suggests the present and future ; nothing even whispers of the past. He seems to sojourn in a great camp, elbowed by the excited soldiery of civilization, who march to unknown conquests, following the flag of fortune. The rudeness of some, and the luxury of other surroundings remind him, now of a soldier's rough quarters, now of the pomp of some great commander's tent. Mentally he sees everywhere the preparation for a campaign, and hears, from dawn to dark, the trumpets of progress harshly braying.

Boston, on the other hand, is, like London, a city where commerce is a reigning king, rather than a military chief planning new invasions. Hence, while one talks of Wall Street and the Produce Exchange, of the Elevated Railroad and the Brooklyn Bridge, of Central Park, Fifth Avenue, and of "the world, the flesh, and the devil" in New York, one thinks, in Boston, of Miles Standish and the Puritan settlers, of General Gage and the Boston Boys, of the Stamp Act and the tea-ships, of Lexington and national independence.

Whether Miles Standish was really the first white man who ever landed on the shore of what is now Boston harbor is a matter of conjecture. Certain it is, however, that this stout Puritan soldier, "broad in the shoulders, deep chested, with muscles and sinews of iron," sailed with some ten companions from the Plymouth colony and landed upon the peninsula in 1621, "partly to see the country, partly to make peace with the Massachusetts Indians, and partly to procure their truck." After being feasted with lobsters and cod-fish, Standish made a treaty of friendship with Obbatinewat, the native lord of the soil, and the party returned to the bleak home of the Pilgrim Fathers, with a considerable quantity of beaver, a good report of the place, and "wishing we had seated ourselves there."

Five years after this, the first visit of the English to Boston harbor, the Rev. William Blackstone, an eccentric Episcopal minister, squatted upon the peninsula, where he built a small cottage and lived a solitary life. Presently, in 1630, came Governor Winthrop

from England, leading the party of Puritans who, as we know, founded the colony of Massachusetts Bay, and who, four years after their first settlement, bought, for thirty pounds, forty-four of the fifty acres which Blackstone claimed, setting them aside as a training-field and for the feeding of cattle. Disliking the supremacy of the "Lords Brethren," as much as he had previously disliked that of the Lords Bishops, Blackstone left Boston after the sale of his property, every acre of which may still be trodden by the curious, for the training-field of 1634 is the Boston Common of to-day.

The Indians called the peninsula Shawmut, a name which the first English settlers changed to Trimountain, still surviving in Tremont Street, but soon giving way to Boston. The Puritans, though they had been persecuted at home, had not suffered so much as the Pilgrims, and felt much more kindly than they towards the mother country. "We will not say," cried Francis Higginson, sailing for Massachusetts Bay as Winthrop's pioneer, "like the Separatists, 'Farewell, Babylon! Farewell, Rome!' But we will say, 'Farewell, the Church of God in England, and all the Christian friends there.'" Hence, remembering with love their old pastor, the Rev. John Cotton, of Boston, in Lincolnshire, who was soon to be among them, and thinking tenderly of their old fenland home, the men of the second *Mayflower* called their town Boston.

Let us put ourselves back two centuries and a half, and take a peep at the new metropolis of a new England during its earliest youth. The period was that of the first Charles, and, little as we realize it when we think of the pioneers of America, the dress, manners, and customs of the settlers all bore the stamp of the time. People of condition wore short cloaks, doublets, and silk stockings, and even carried rapiers, as in England; while the simpler sort, like Longfellow's Miles Standish, were clad in "doublet and hose, with boots of Cordovan leather." Steeple-crowned hats, under which the elders wore velvet caps, covered, here the cropped hair of a Roundhead, there the long, but uncurled locks of laxer heads. These people lived in cottages made of earth or logs, one story high, with very steep, thatched roofs, through which a clay-plastered log chimney protruded. Entering any one of these, we should have found the fireplace made of rough stones, with logs, four feet in length, burning on the hearth, which was large enough for the children to sit in the corners and look up at the sky. Every house faced exactly south, so that the sun shone square into it at noon, and told the family that it was time to dine. Such was the economy of the times that Governor Winthrop reproved his deputy that "he did not well to bestow so much cost about wainscoting and adorning his house, both in regard of public charges and example." To which reproof Thomas Dudley made modest answer, "that it was but for

warmth, and the charge little, being but clapboard, nailed to the wall, in the form of wainscot."

"Let it never be forgotten," said one of the early Puritan preachers, "that our New England was originally a plantation of religion, and not a plantation of trade. And if there be a man among you who counts religion as twelve and the world as thirteen, let such a one remember that he hath neither the spirit of a true New England man nor yet of a sincere Christian." Hence it is fitting that we should view the church before we glance at the street or the market, which last, indeed, formed a very minor interest of life in early Puritan days.

On Sabbath mornings, at nine o'clock, a drum was beaten, a conch sounded, or a bell rung to summon the people to the meeting-house. This was a log hut, fenced around with stakes, its entrance guarded by a sentinel in armor, in whose charge the men, as they passed within, left their muskets, always kept ready at hand to repel an Indian attack. The congregation was separated according to age, rank, and sex, the old men here, the young men there, the young women elsewhere, and the boys upon the pulpit stairs. Constables, armed with wands, each with a hare's foot at the end, paraded the little aisles, and if a woman slept, a touch of the hare's foot on her forehead aroused her; if a boy snored, the other end of the stick sharply reminded him where he was. Three, and even four times was the great hour-glass beside the minister turned before his morning's wrestle with the spirit of evil was over, yet might no man absent himself from the service under pain of being found by the "tithing-men," haled to the church, and afterwards fined, or, should he be absent for a month, the public stocks were his punishment.

Once a month a muster of "soldiers" took place on the training-ground, in other words, every man over sixteen years of age presented himself for drill. They were armed with ten-foot pikes and matchlocks, and wore steel helmets and breastplates, or thickly padded and quilted coats, which could turn an Indian arrow. On other days the same men, dressed in civil costume and wearing clean ruffs, assembled in the town meeting, and gravely discussed the affairs of the town and interests of the Church. If a vote were taken they put either a kernel of corn or a bean into the ballot-box, as they wished to say "yes" or "no."

The laws which they made were more severe than wise. No strangers might live in the town without giving bonds of indemnification and for good behavior. No one might even entertain travelers without leave of the selectmen. Sobriety was enjoined by law, although the sale of liquors was licensed, but no man might use tobacco in the street under penalty of a shilling fine. To speak evil of the ministry was a heinous offence, and to be absent from meet-

ing a crime. The watch were instructed that if, after ten o'clock, they saw lights, to inquire if there be warrantable cause; if they heard vain singing, to admonish the singers; if they found young men and maidens walking together, "modestly to demand the cause, and if they appear ill-minded, to command them to go to their lodgings, and if they refuse, then to secure them till morning."

Which, after all, was better—the age of faith, fearing above all things to do wrong, and interfering in all the affairs of life, even to persecution, with the object of making a virtuous people, or the morality of the present time? Answer be it to say that these same Puritans, with all their godliness, could not see that slavery was wrong. Negroes were first brought to Boston, in the ship *Desire*, as early as 1638, and, in spite of some efforts to put down the traffic, slavery steadily gained ground in the colony, until, at length, negroes were offered for sale in the public prints of Massachusetts as openly as in those of the Southern States. But, while slaves changed hands like ordinary merchandise, it was an offence to harbor a Quaker, or attend a Quaker meeting. When the Baptists tried to enter their first meeting-house they found the doors nailed up, and when they thereupon held a service in the open air, they were arrested and imprisoned. No one could be found to sell a plot of land for an Episcopal church, while heresy might be punished, according to its "damnableness," by fine, banishment, or even by death. Such being the Boston of the men who built it for a refuge from ecclesiastical domination, let us glance again at the city at a time when the sons of the Puritans were making it a stronghold against the tyranny, not of English bishops, but of an English king and parliament.

Old Boston, at the time of the war, was a town of irregular streets and narrow lanes, bearing names either of commonplace character or of English associations. Thus there were Frog Lane, Flounder Lane, and Hog Alley, together with King Street, George Street, and Marlborough Street, all of which have long since been altered. The carriageways were pitched with large pebbles, and the footway was marked off from the road only by a gutter. The houses were still, for the most part, of wood, ugly in appearance, and having their shingle roofs surmounted by railings, within which, on washing-days, the family shirts and petticoats flapped in the wind. The mean look of the houses was, however, somewhat relieved by a profuse and varied display of signs. These decorated the shops with such devices as the Heart and Crown, Three Nuns and a Comb, the Brazen Head, together with an endless succession of golden balls, blue gloves, sugar loaves, sceptres, elephants, Red Indians, and gilded boots, but in no case did the sign bear any relation to the business carried on beneath it. It is a little remarkable that, almost

alone among these sculptured advertisements, the Red Indian, in America, simulating the Highlander who guards the British snuff-shop, survives, like him, to distinguish the tobacconist's trade.

On the west side of the town the streets were neater, and the houses of brick, with Corinthian pilasters up the front, and Corinthian columns supporting the porch. Each dwelling stood in its own garden, embowered with foliage, while long flights of sandstone steps gave access to the front door, which was frequently framed in roses and honeysuckles. The furniture was often imported from England, and the housewife took a special pride in her china, cut-glass dishes, and English silver plate. On the landings were tall, upright clocks, which chimed a tune every hour; in the living-rooms great fireplaces and shining brass andirons; on the walls pictures by Copley or West. The books were few and uninviting, according to modern ideas. The "Lives of the Martyrs," Young's "Night Thoughts," Rollin's "Ancient History," the "Pilgrim's Progress," and the *Spectator* were all on the shelves, but no novels of Richardson, Fielding, or Smollett.

The master and mistress might be either austere or worldly people. In the former case, life was governed by cast-iron rules, which, harsh as they seem to us, at least generated force of character and fostered a high if narrow intell'gence. Books that repel readers of the present day found diligent and thoughtful students both in the bread-winner and housewife. The girl of the period was educated at home, until old enough to go to school, where she learned, in addition to the three R's, a little French, and how to embroider, draw, and play upon the harpsichord.

The frivolous, on the other hand, of whom there were many, entertained in the good old style, giving dinners after the English fashion, where, when the ladies had withdrawn, the punch-bowl and rare old Madeiras gave life to many a discussion upon politics and religion. The ladies spent their time in paying and receiving visits, while, once a fortnight, they attended public assemblies in Concert Hall, where the minuet and *contre-danse* still held the floor.

Worldlings such as these, however, excited the horror of the staid majority, even in the city; while, in the country, the farmer lived a life of absolute simplicity and rigid pietism. He ploughed his land, sowed the seed broadcast, cut it, when ripe, with a scythe, and thrashed it with a flail—all with his own hands. His house was without paint, carpets, or decorations of any kind. He ate rye-bread, beans, and pork, and his two suits, of corduroy and broadcloth, after lasting him a lifetime, descended to his heir. The weekdays were given wholly to labor, and on Sunday, after the mid-day meal, the farmer sat in his wide chimney-corner while his daughter, Kezia or Comfort, read him, let us hope, to sleep, with one of those

terrible Calvinistic sermons, characteristic of the time, whose only burden seems to be,

"You can and you can't; you will and you won't.

You'll be damned if you do; you'll be damned if you don't."

Notwithstanding all which the New England farmer, like the citizen of the period, was by no means an unintelligent or unimportant person. His education, though not deep, was sound; his interest in public affairs intense, while the share which he took in the government of his township sharpened his political judgment, as his sense of proprietorship developed his patriotism.

We may well imagine that such men as these, whether living in town or country, looked with no favorable eye on the soldiers of King George, whose presence in Boston overawed the colonists, already chafing against the hated Stamp Act, already echoing the cry of "No taxation without representation." And when the Stamp Act passed, Boston expressed its feelings in no half-hearted manner. The people hanged the new stamp collector in effigy upon their great elm, afterwards called "Liberty tree," and, defying the chief-justice, who ordered the sheriff to take the image down, burned it before the officer's own door, and then wrecked the chief-justice's house. Meanwhile, in the country, mounted men hunted the newly appointed stamp officers and forced them to resign their posts. News like this went quickly to England, causing the wise Chatham to exclaim, "I rejoice that America has resisted," and bringing about, through his influence, the repeal of the act within a year of its passage.

But the troops remaining in Boston soon got into hot water with the people, and their first brush was with the boys. The latter built snow-hills every winter on the Common, and these the soldiers had several times wantonly trampled down, so, after vainly appealing to the captain, a deputation of the boys waited upon General Gage, made formal complaint of their grievance, and declared they would bear it no longer. "What!" said the general, "have your fathers taught you rebellion, and sent you here to exhibit it?" "Nobody has sent us, sir," answered one of the boys. "We have never injured or insulted your soldiers, but they have destroyed our snow-hills, and broken the ice on our skating-ground. We complained, but they called us 'young rebels,' and told us to help ourselves if we could."

Happily, Gage was a good fellow, and took the boys' part; but it was not long before a much more serious quarrel arose between the troops and the townspeople. On March 5, 1770, a party of soldiers, straying about the town with their guns in their hands, were taunted by and returned the taunts of a crowd. Some boys threw snowballs and shouted, "Drive them to barracks!" and the noise

was increasing when the guard, commanded by Captain Preston, arrived on the scene. Taunts soon became threats, and threats had already ended in blows, when Preston ordered his men to fire; and, on the smoke clearing away, eleven men were seen stretched upon the ground, four of them being stone dead. Captain Preston was tried for murder, but, shielded by the loyalty of men in high position, he was acquitted, notwithstanding which the "Boston massacre" formed the first step towards the Revolutionary War.

Three years later, George III., in the words of Lord North, determined "to try the question with America," and, dropping a number of vexatious taxes, which, in spite of Pitt's earnest remonstrances, had been reimposed subsequently to the repeal of the Stamp Act, he stubbornly insisted on retaining the tax upon tea. Some large shiploads of tea were accordingly sent from England to various colonial ports, and, among others, to Boston. Meanwhile, it must be remembered that people in the colonies were everywhere abstaining from the use of articles upon which taxes were laid, and, in this matter of tea, were trying all sorts of native herbs as a substitute for it. When the tea-ships arrived, therefore, the city set a guard over them as they lay at the wharf, while endeavoring to persuade Governor Hutchinson to send them peaceably back to London without unloading. This the governor refused to do, whereupon a body of fifty men, disguised as Indians, took possession of the vessels, and threw their cargo, consisting of three hundred and fifty chests of tea, into the harbor. Then they quietly dispersed, and so ended the famous "Boston tea-party," which took place on December 16, 1773.

If we could have entered Boston two years later, or in the spring of 1775, we should have found it full of English soldiers, the city protected by earthworks thrown across the "neck" of the peninsula, the wharves deserted by shipping, and only British men-of-war lying in the harbor. At the same time the citizens of old Boston were meeting every night at clubs, where, from amid clouds of tobacco smoke, and while the punch-bowl went round, one patriotic speaker after another encouraged the people to resistance, and even incited them to war in defence of their liberties.

At length war came. The patriots of Massachusetts colony had already organized themselves as a provincial congress. From the colonial militia they had selected a body of "minute-men," who were bound to assemble at a moment's notice. They had collected and stored, at Concord, arms and ammunition, whose whereabouts General Gage's spies could not discover, and to secure which from capture they organized a special watch, whose instructions were to hang out a lantern from the North Church if, at any time, a large force of troops should move out of Boston under cover of darkness.

On the night of April 18, 1775, this light gleamed from the steeple, and immediately messengers went riding in all directions to apprise the patriot leaders that the regulars were coming out. Meantime nearly a thousand British troops, embarking in boats at the foot of Boston Common, left the peninsula, and were already marching silently through what is now Cambridge, when, suddenly, the bells of the country churches began to ring, making it clear that the alarm had been given. The British general in command sent back for more troops, at the same time despatching Major Pitcairn, with two or three hundred men, to seize the bridge at Concord. But when, early next morning, he passed through Lexington, he found his further advance opposed by a small body of militiamen, under the command of Captain Parker. Upon them the British at once opened fire, the Americans replying, but without doing much mischief, and Pitcairn marched on towards Concord, leaving eighteen Americans killed or wounded on the field.

The North Bridge at Concord was already defended by nearly five hundred patriots, when the British advance, which had now been joined by the main body of troops, attacked the position. The British were first to open fire, which the militia and minute-men returned with such effect that the regulars were soon in full retreat, a retreat which presently became a rout. For the whole country had now been aroused from sleep by the clanging of bells, and the farmers arriving, alone or in small parties, but without order or discipline, fell upon the broken troops, firing at them from behind trees and stone walls, until, at last, they fairly bolted. For sixteen miles the British soldiers ran the gantlet through a lane of desultory fire, and were only saved from total destruction by reinforcements, which marched out of Boston and received the remnant of tired fugitives within a hollow square. Thus opened the War of Independence, at the very gates of New England's capital, behind whose defences the shattered troops of Britain found a temporary shelter, whence, however, and within a year, they were to be forever driven by the skillful operations of General Washington.

Old Boston was, as we have seen, a town of signs, and its trading quarters a labyrinth where

"Oft the peasant, with inquiring face,
Bewildered, trudges on from place to place;
He dwells on every sign with stupid gaze,
Enters the narrow alley's doubtful maze,
Tries every winding court and street in vain,
And doubles o'er his weary steps again."

The sign of Josias Franklin, tallow-chandler, and father of Benjamin Franklin, was a blue ball, which hung suspended over a tiny shop at the corner of Hanover Street, where the future *savant* and

statesman dipped candles for his father, until, tiring of this business, he entered his brother's printing-office in Queen Street. Hanover and Queen streets! How much the candlemaker, who left the one at twelve, to become his brother's type-setter in the other at fourteen years of age, was yet to do towards changing these names and his country's future! Boston, however, can no longer honor the little house where the great Franklin was born, for it, like a hundred other landmarks of the past, has been swept away by city improvements. But the blue ball, at least, remains, a sacred relic in the eyes of all New-Englanders, carefully preserved by General Stone, of Boston, in memory of one of her greatest sons.

The stories of his humor are endless, and no man ever undertook greater responsibilities with greater cheerfulness. Franklin could joke, whether putting his armor on or off, and, in the latter case, was perhaps never happier than in his famous toast at Versailles. After the war was over, he, with the English ambassador, was dining with the French minister Vergennes, when a toast from each was demanded. "I give you George the Third," said the Englishman, "who, like the sun in his meridian splendor, enlightens the whole world." "And I," said the Frenchman, "Louis the Sixteenth, who, like the moon, sheds his benignant rays over the universe." "I ask you to drink to George Washington," cried Franklin, "who, like Joshua of old, commanded both sun and moon to stand still, and they obeyed him."

But we must not leave the metropolis of New England without one glance at the Boston of to-day. It is a city of very irregular outline, the foster-child of rivers, creeks, bays, and inlets, which have determined its wholly un-American features. Its deep and capacious harbor is lined with nearly two hundred wharves, and studded with as many as fifty picturesque islands. Its streets are well-paved, clean, and admirably cared for; those of old Boston retaining the irregularity of the past, but now consisting of solid, if old-fashioned, warehouses, halls, and markets. The newer quarters are laid out symmetrically, long streets of handsome shops and fine blocks of commercial offices giving upon excellent, and sometimes splendid, residential districts. Among these rise numerous churches of considerable dignity and beauty, which more than make amends for the absence of public buildings as important as those of Washington. The park-like Common, dominated by the State-house, with its high, gilded dome, is set like an oasis in the very heart of the town, whose best streets are bordered with turf and trees, giving a charm to Boston such as no other American city possesses. Everywhere there reigns scrupulous cleanliness and perfect order; well-dressed people throng the streets and crowd the remarkably well-appointed public vehicles, the whole scene suggesting to an English

visitor a tiny but newly scrubbed London, brightened by pretty tolets, and blessed with the atmosphere of Italy.

To reproduce the suburbs, take Sydenham, or, if procurable, some yet cleaner skirt of London; shake its houses and gardens over a number of charming and rather abrupt hills which look down upon a city of wharves and warehouses indeed, but also upon a blue and land-locked harbor, dotted here and there with grotesque little islands. Institute a great external "spring-clean" of all these dwellings, and then frame the white results with greenery below and azure above. Such is the city and such the homes of Boston, where live three hundred and fifty thousand people, the pick of the English race. In its drawing-rooms, as in its counting-houses and streets, an Englishman feels that he is at home, although on the farther side of the Atlantic. But he is conscious that the conditions of life are more inspiring, that opinion is freer from social fetters, and that the intellectual air, like that of heaven itself, is crisper in the capital of New than of Old England.

And the truest lovers of that dear Old England are they who rejoice that the possibilities of their race are not to be exhausted in the little island which gave them birth. As the men who carried the lamp of English liberty to Plymouth Rock and Massachusetts Bay were of our best blood, so the best of their living English kin are they who love to see that light brighten, and who glory in its widening spread. Farewell, New England! only less dear than Old England, whose son, if I were not, then I would be yours. God speed your arduous work of moulding European labor upon the manly ideals of your fathers; God quicken the conviction which you inherit from those fathers that upon the worth of industry rests the welfare of states.

CHAPTER XVIII.

THE HUDSON RIVER.

THE work we set ourselves to do is over; we have seen the last of New England men and New England mills, and bidden "God-speed" to the transatlantic alchemist, leaving him busy at the task of transmutation, "making Americans" from European materials, in the alembic of common schools and free institutions. We have observed the present condition, noting its lights and shadows, and tried to forecast the future of labor in America; nor have we shrunk from reasoning together concerning the fiscal dangers of industry in the States. Meanwhile the bright American summer has succeeded to the sudden spring, and now, with its glorious sunlight over us and glad greenery around us, our faces are again turned homeward.

Once more I am leaving New York, bound, this time, for Quebec, and thence by the Allan line of steamers to England, but with time enough on hand, before the *Polynesian* starts, to enjoy a leisurely sail up the Hudson River and the trip by Lakes George and Champlain to Montreal. Afterwards I will beg the reader's further company while we glance, in passing, at the two chief Canadian cities, nor ask to say good-bye until the glorious St. Lawrence has floated us to the Atlantic Ocean.

All the world knows that the city of New York lies at the mouth of the "Groot River," which the navigator Henry Hudson discovered when making his third voyage, on behalf of the Dutch East India Company, in search of a short-cut to India. This long-desired route he, for a time indeed, thought he had found, as he sailed in the autumn of 1609 up the tidal reaches of the Hudson. But his admiration of the fine lands on both sides of the stream, "pleasant with grass and flowers and goodly trees," whence friendly Indians brought grapes, pumpkins, and furs to his ship, in canoes hollowed out of trees, was soon to end in bitter disappointment. After a hundred and fifty miles of hopeful navigation, the water shallowed under his keel, until, brought to a standstill by shoals at the spot where Albany now stands, the baffled explorer turned back a third time from seeking a westward road to the wealth of Ind. Once again only was the daring Dutchman to attempt the realization of this dream of the seventeenth century. But his next voyage was

into the northern seas, where, in the bay that bears his name, his mutinous crew set himself and his son adrift, among floating ice, in a small ship's boat, wherein, ending life's voyage in company that he loved, the old viking drifted away to the haven where he would be.

After his discoveries, Holland laid claim to all the land along the Groot River, calling the whole territory "New Netherlands," and presently establishing at the mouth of the stream the settlement of "New Amsterdam," which had grown into a considerable town before it fell into our hands and changed its name to New York, in 1664. Meanwhile, the Dutch had built several trading-posts at various points on the river, where they bought skins from Indian trappers, paying for these with beads, knives, and hatchets.

We have already seen how slowly the Dutch settlers on the Hudson, who were traders rather than farmers by inclination, spread eastward from the stream towards the New England States, and how the superior energy of the English colonists tended to confine the former to the river banks. Those banks are, indeed, still Dutch in the names of the towns which line them, as these also are Dutch in many of their manners and customs. If the "bowery," or country-house, of the old Dutch trader has disappeared, and if he no longer lounges in its "stoop," or porch, on moonlit evenings, greeting passers-by with punctilious politeness, the names "bowery" and "stoop" have nevertheless become fused into the speech of the American people. Similarly, the Dutchman's festival of Santa Claus and his habit of giving Easter eggs survive in existing national customs. The very "crullers" and "doughnuts" which these lovers of good cookery brought with them from Europe are American delicacies to-day, although the broad-skirted coats, with large silver buttons, the knee-breeches and eelskin queues of the men, the white-muslin caps, gayly colored petticoats, bright-green stockings, and high-heeled shoes of the women are gone.

But we must not waste the day talking of old Dutch times on the Hudson. The whistle of our river steamer is blowing, we are seated well forward, for the sake of the view, we know that all the comforts of life are at our command on board this floating hotel, and, with these resources of civilization at hand to comfort us on the way, we are well content to lounge away a long summer day among some of the finest river scenery in the world.

The Hudson is, altogether, rather more than three hundred miles in length, but is only navigable for half that distance, the last hundred and fifty miles of its course forming a tidal estuary, although presenting the appearance of a broad river. Leaving the wharf, the *Vibbard* became one of a motley crowd of craft, whose number and variety is a special feature and one of the great charms of the Hudson. Three-storied ferry-boats and snorting little tugs, graceful

sloops and schooners, immense "tows" of barges, in charge of large paddle-wheel steamers, yachts, fishing and pleasure boats of all descriptions, make a lively scene of the spacious bay into which the river widens opposite New York.

This bay, after a few miles, becomes a majestic stream, whose opposite banks are, however, widely contrasted in character. On the west rises a sheer wall of basaltic rock, varying from three to five hundred feet in height, but nowhere more than a mile in width. About the base of this wall lies a talus of its own *débris* scantily clothed with trees, while its summit is, here and there, crowned by a private residence, or a great hotel. The "Palisades," as they are called, whose total length is not less than three hundred and fifty miles, extend for twenty miles along the west bank of the Hudson, and are only occasionally broken into detached pinnacles or cleft by a rare cascade. They are one of the trap ridges, such as those we have already seen in the Connecticut valley, which everywhere intrude through the triassic sandstones of the Eastern States, and form ranges of rampart-like hills, having bold, columnar faces and long, sloping backs. While the western shore thus consists of a long and frowning cliff, the eastern bank of the river exhibits a succession of slopes, worn by the passage of glacier ice in azoic rocks, which sink in a thousand gentle curves to the water's edge, smiling with snug villages, grassy lawns, embowered villas, and pretty cottages, the homes of wealth and taste.

We have quite tired of the monotonous wall of the Palisades before this at length retires from the river bank at a spot almost opposite Sunnyside, the home of Washington Irving. His cottage of many gables, scarcely seen for the dense shrubbery which surrounds it, was built by one of old "Silverleg's" counsellors, who, Dutchman-like, inscribed the motto "Lust und Rust" over doors which were afterwards to form the subject of one of Irving's most charming sketches. A few miles more bring us to "Sleepy Hollow, a little valley among high hills, which is one of the quietest places in the world," a retreat where one might happily "steal from the world and its distractions and dream away the remnant of a troubled life."

"Here, once on a time, Ichabod Crane taught the Dutch urchins the three elementary R's, and, at the same time, paid court to the fair Katrina, daughter of old Farmer van Tassel. Brom van Brunt, nicknamed Brom-Bones, loved the same maiden, and resolved to drive the schoolmaster from the village. One dark night, Ichabod started home from Van Tassel's in very low spirits. The hour was dismal as himself. Far below him the Hudson spread its dusky waste of waters, with here and there the tall mast of a sloop riding quietly at anchor under the land. Now a belief was extant in a

spectre called the Horseman of Sleepy Hollow, supposed to be the spirit of a Hessian trooper whose head had been carried off by a cannon-ball. Near the old church this horrid ghost made its appearance in pursuit of Ichabod, who bestrode an inflexible horse named Gunpowder. The terrified schoolmaster made all haste to reach a certain bridge, passing which he would be beyond the power of his pursuer. He spurred old Gunpowder forward, but, looking back, beheld the spectre close behind and in the very act of hurling its head at him. The crash came; Ichabod rolled to the ground, and both spectre and Gunpowder rushed past him in a whirlwind. A shattered pumpkin was found in the road next day, and not long afterwards Brom-Bones led Katrina to the altar, but Ichabod was seen no more."

Very near the quiet hollow where Irving liked to think of dreaming away his life is a quaint little seventeenth-century Dutch church, the oldest religious edifice in the State of New York, and here, on a marble slab, may be read—

WASHINGTON,

SON OF

WILLIAM AND SARAH IRVING,

Died November 28, 1860.

And that is the grave of the immortal Geoffrey Crayon.

Forty-three miles from New York the steamer approaches the Highlands, a continuation of the Blue Ridge mountains of Virginia, which, entering New York State from that of New Jersey, traverse its southern extremity to join the Taconic range, of which we saw so much in the earlier part of our journey. The Hudson meets the Blue Ridge almost at right angles, and has cut a passage through it, nearly eighteen miles long, steaming along whose deep but narrow channel the traveller is presented with a series of mountain and river views unrivalled by those of any country in Europe. At the entrance of the Highlands, especially, stupendous precipices rise immediately from the water, suggesting, but of course erroneously, that the stream has violently torn asunder the rocky barriers with which the hills once tried to restrain it.

The contrast presented to the mind between the river, apparently bursting, in one case, through a mountain barrier several miles in breadth, and flowing quietly, in the other, past the basaltic wall of the Palisades, is very striking. But the reasons for the existence of that contrast are not far to seek. The Blue Ridge, as the country north of it testifies, was once the southern boundary of a great lake, which filled the upper valley of the Hudson with a sheet of water at least a hundred and twenty miles long and forty miles wide. This inland sea was hemmed in by the Taconics on the east and by another Appalachian fold, of which the Catskills form a conspicuous

portion, on the west. Its outlet overflowed the crest of the Blue Ridge and poured southwards over it in a series of cascades, which, reaching the Hudson River of that period, were carried with its waters to the Atlantic Ocean. As time went on the falls of the Blue Ridge, cutting their way backwards, after the manner of cataracts, severed the range, and in this sense only can the Hudson be said to have forced its way through the eighteen miles of hill-country in question. The Palisades, on the other hand, having themselves a southerly trend, opposed no bar to the progress of the stream, for which, indeed, they form a natural embankment.

Among the many high, forest-covered hills that environ the traveller passing through the Highlands, one of the highest is the Dunderberg, or Thunder Mountain, where, as Irving tells, and as every Dutch sailor used firmly to believe, dwells the storm-goblin of the Hudson. "The captains of river craft declare that they have heard him, in stormy weather, in the midst of the turmoil, giving orders in Low Dutch for piping up a fresh gust of wind or rattling off another thunder-clap; that sometimes, even, he has been seen, surrounded by a crew of imps in broad breeches and short doublets, tumbling head over heels in the rack and mist, and that, at such times, the hurryscurry of the storm was always greatest. Once, a sloop, passing by the Dunderberg, was overtaken by a thunder-gust that came scouring round the mountain and seemed to burst just over the vessel. All the crew were amazed when it was discovered that there was a little white sugar-loaf hat on the masthead, known at once to be the hat of the Head of the Dunderberg. Nobody, however, dared climb to the masthead and get rid of this terrible hat. The sloop labored and rocked as if she would have rolled her mast overboard, and seemed in continual danger, either of upsetting or running ashore. Thus she drove quite through the Highlands, until she passed a certain island where, it is said, the jurisdiction of the Dunderberg potentate ceases. No sooner had she passed this bourne than the little hat sprang up into the air like a top, whirled all the clouds up into a vortex, and hurried them back to the summit of the Thunder Mountain, while the sloop sailed on upon an even keel. Nothing saved her from wreck but the fortunate circumstance of having a horseshoe nailed to her mast, a precaution against evil spirits adopted by all Dutch captains who sail this haunted river."

West Point, the Military Academy of America, is situated among scenery of the most enchanting description in the very midst of the Highlands. Love rather than war, however, might well appear to be the subject of study at West Point, which is the theatre, during summer, of an endless round of harmless dissipations. Luncheon parties and picnics are the order of the day, and the woods are bright with pretty bonnets which do not hide prettier faces. Flirtation

Walk, one of the most romantic river-side paths it is possible to imagine, is never without more than one pair, of ardent cadet and yielding maiden, whether sheltering among its foliage from the mid-day sun, or watching the moonlight lending silver to the stream and enchanted shadows to the hills.

But West Point has known the rigors of war as well as the amenities of peace, and was, indeed, the scene of that dramatic incident of the Revolutionary War, the treason of General Benedict Arnold. In the summer of 1780 this officer was in command of the Hudson River, with his headquarters at West Point, then the key of communication between the east and south, and whose transfer into British hands would have cut the united colonies in two. This important post Arnold, who had long been in communication with Sir Henry Clinton, the British commander, was about treasonably to surrender, and would have succeeded in doing so but for a lucky accident. Three young American militiamen were one day roaming in the woods, over what was called the neutral ground, when they met a man, coming from West Point, with whom they stopped to parley. This was no other than Major André, Clinton's aide-de-camp, dressed in plain clothes, furnished with a false name and a pass from General Arnold, conveying a letter from the latter to the British headquarters. Supposing that his interlocutors were Loyalists, of whom there were many in the neighborhood, André did not conceal the fact that he was a British officer, whereupon he was immediately seized and searched. Arnold's letter was found in his boot, and himself at once marched to the nearest military station, where, a little later, he was tried by court-martial and hanged as a spy. Arnold, warned by friendship, escaped to the British lines, and took a commission in the British army, but the traitor's name has been erased from the marble slab which records the names of the revolutionary generals at West Point.

At Newburgh, sixty miles from New York, the steamer leaves the grandeur of the Highlands behind her, but scarcely are these lost sight of before the Catskill range comes into full view. These mountains rise abruptly from a plain extending some ten miles westwards from the river bank, and assume the form of an amphitheatre, whose walls, after scarcely completing a circle, turn, one northwards and one southwards, to form another of the many folds of the Alleghany chain. This is the very mountain hollow within whose precipitous sides the immortal Rip van Winkle fell into his long sleep, while around and above it rise the heights which still echo, for those who have ears to hear, the revels of Heinrich Hudson's crew and the roll of their ghostly bowls. The Catskills come into, and are lost to view, again and again, as the steamer proceeds, their bastion-like profile tinted with heavenly blue, and their receding flanks exhibit

ing every dying tint of aerial azure until they are finally lost in the hazy distance.

From the quaint old Dutch town of Poughkeepsie, where the views of the Catskills are finest, to Albany, the river banks are tame, in regard to scenery, but interesting by reason of the many busy, prosperous towns which line them. Especially notable are the great ice-houses, which become very numerous on either bank during the latter half of the trip; that is, after the Hudson has become a fresh-water stream, or some sixty miles above New York. Between this point and Albany there are nearly two hundred ice-houses, with a storage capacity of from five hundred to sixty thousand tons each, and it is from these that the city of New York, whose annual consumption of ice is upwards of seven hundred thousand tons per annum, is chiefly supplied. The use of ice in America is carried to an extent totally unknown in other countries, no matter how hot their summers, and the business of ice-collecting is conducted on a correspondingly gigantic scale. The total annual ice-crop of the States is estimated at twenty million tons, of which the Hudson alone furnishes about three million tons, a quantity that could neither be gathered, stored, nor distributed without the assistance of special apparatus.

Clear as well as clear ice is only to be had when the frozen surface of the stream is protected by a coating of snow. This, when ice-harvesting begins, is removed by a machine, half scraper, half scoop, drawn by a horse. When an area some five or six hundred feet square has been thus cleared, it is lightly scored across and across, checker fashion, by means of ice-ploughs, drawn, like the snow-scraper, by horses. Other ice-ploughs next deepen the scores into grooves, which penetrate the ice to two thirds of its thickness, and leave the whole harvest-field ready to break up into square cakes measuring twenty-two inches across. While the ploughing is in progress a channel is cut from the field to the ice-house, and the ice therein got rid of by pressing it, a piece at a time, below the surface of the water, when the current carries it beneath the main ice-sheet. A way being thus opened between the depot and the checkered ice-field, the latter is sawn into "floats," about twenty squares long and fourteen squares wide, which are afterwards broken up into long strips, by means of wedges applied to the grooves, and floated into the channel, where they are finally separated into cakes by men armed with chisel-bars. When the cakes, pushed forward by the floats behind them, arrive at the bank, they are received upon an inclined steam elevator, consisting of an endless chain furnished with carriers, an arrangement very much like that which conveys the straw from a thrashing-machine to the top of the straw-rick. The lower end of the endless chain, with its

carriers, dips under the surface of the water below, while above it enters the top of the ice-house, into which each cake, as it comes up on a carrier, is discharged upon "slide-ways," or rails of gentle grade, adjustable to any desired spot within the depot. The elevators, in some of the largest establishments, are capable of raising fifty blocks, of a thousand pounds each, per minute, or fifteen hundred tons of ice in an hour. The ice-houses are immense wooden erections, without doors or windows, about a hundred and fifty feet long and forty feet wide, each accompanied by a smaller building, containing a steam-engine for driving the elevator. The cakes of ice are stored with a three-inch space all around them, for the prevention of undue waste in breaking them out; and after the house has been filled and closed, the frozen mass within loses little by melting.

Summer having now come, the depots, as we passed, were busily discharging ice, by means of "slide-ways," into big brown barges, which convey it to New York. These, when loaded with cakes, are collected into "tows," consisting of thirty or forty boats, arranged four deep, in a line, and towed by very powerful paddle-wheel steamers. Among the varied craft which crowds the Hudson River there is nothing so striking in appearance as these great ice-tows. Every barge is the home of a steersman, whose good wife flies a number of domestic flags upon the lines connecting the two stumpy masts of the vessel. In the bow of each boat stands a miniature windmill, whose canvas sails, turned by the breeze which the movement of towing creates, give motion to a crank, and this to a pump, keeping the barge free of such water as drains from the ice-cakes. A stranger water-procession it is impossible to meet. First, the high and laboring paddle-wheeler comes into view from out of the river mist, and, presently, separated from her by the length of the scarcely visible towing-lines, the mass of united barges steals noiselessly and gradually into sight. This has the appearance of a single strange and monstrous craft, bending flexibly around every curve of its course, fluttering with unknown bunting, and bewildering the eye with its array of whirling wind-sails.

At length we reached Albany, the point whence, less than three centuries ago, Henry Hudson turned back from his search for the road to India; the capital of the great state of New York to-day. Being now a bird of passage, tarrying only for an hour in the city, there is, of course, little to be said of its appearance and people. But that hour gave me time, and to spare, for the discovery that something other than the width of the Hudson River divides the Empire State from New England; that, as I am much concerned to show, there are Americans and Americans. In spite of its splendid and still rising State House, one of the most ambitious public buildings

in the world, and which has already absorbed nearly two and a half millions sterling, Albany proclaims itself to be without the public spirit and good municipal government of a New England city. Its streets are shamefully paved with rough bowlders, its sidewalks and gutters are the mere children of accident, and every public roadway is disgracefully out of repair. Its shops are less clean and respectable in appearance than those of any New England town, as its wayfarers are visibly of a lower grade. Nothing in the general appearance of the town attracts the European visitor, while it must sadly disappoint those whose ideals have been formed upon New England models. I was glad when the train swept me away from the dirty railway depot, towards the clear waters and wooded shores of Lake George.

CHAPTER XIX.

LAKES GEORGE AND CHAMPLAIN.

IN the same year that the Dutch navigator ascended the Hudson to its junction with the Mohawk River, Samuel Champlain, the famous French explorer, first made his way from Quebec to the lake which bears his name. From its southern extremity he saw the smaller sheet of water now called Lake George, which, however, was not visited by a white man until three years later. Could Champlain and Hudson have pushed, the one forty miles farther south, the other forty miles farther north, France and Holland would have met at the head of Lake George, a hundred and fifty years before this spot saw the decisive battle which, after nearly seventy years of desultory warfare between England and France, prepared the way for the supremacy of the former in the New World. But Holland had been pushed aside by England almost a century before the forces of those two countries advanced, each with their savage allies, to meet in the death grip which was only relaxed on the heights of Abraham.

The terrible French and Indian wars of the seventeenth and eighteenth centuries, whose cause has already been alluded to, and some of whose incidents related, came about in the following way. As the New England settlers increased in numbers the native tribes steadily diminished, so that, in the last quarter of the seventeenth century, the whites largely outnumbered the native races. The latter were no match for the well-armed English, and, as one quarrel after another arose, the redskins were pushed farther backwards, until their territories became diminished, whether by treaties or seizures after war, to mere strips of land. Meanwhile the French, who had long been settled in Canada, or "The New France," having explored the Great Lakes, traversed the Ohio and Mississippi rivers, together with lakes George and Champlain, claimed all the vast internal region from the St. Lawrence to the Gulf. They were quite as anxious as the Indians to confine the English to the strip of land bordering on the Atlantic, which alone their colonies occupied; and their missionaries and traders were very successful in cultivating friendly relations with the redskins. Hence, when the latter, beginning to find the pressure of the English intolerable, turned to France for assistance, the settlers of Canada were only too willing to give it. The

wisest Indians, indeed, foresaw that the French and English would prove, each the edge of a pair of shears that would finally cut their possessions into ribbons, but the majority welcomed French assistance with eagerness.

This led to a series of wars, which, although termed Indian, and called by a variety of names, such as King William's War (1689), Queen Anne's War (1702), King George's War (1744), and, finally, the Old French and Indian War (1755-63), were really one long war, whose object was to determine whether the French or the English should be supreme in America. It was during the second of these contests that, as already related, the French and Indians attacked the town of Deerfield, and the dreadful incidents of this story might serve, names only being changed, to characterize all these terrible wars.

It is easy to imagine how such tales, repeated by fathers to children at every colonial fireside, inflamed the hatred with which the white man regarded the redskin, and how this hatred became extended to the Canadian French, who aided the Indians in their attacks. So great was the interruption which these savage raids caused to the ordinary pursuits of life, that the colonists were always ready to back the government in sending expeditions against the French in Canada, so as to keep them busy defending themselves. Thus, in 1745, the Massachusetts colony fitted out an expedition, in which four thousand men took part, leaving their wives and children to plant the fields in their absence. Their object was to attack the French fortress of Louisburg, on Cape Breton, a position whose strength had gained for it the name of the "Gibraltar of America." Spite of its daring character, the enterprise was completely successful, and, after a siege of fifty days, Louisburg was lost to France.

It happened, very fortunately for the colonists, that, while the Indians of the northwest were all allies of the French, certain powerful tribes, who lived west of the Hudson River, had long been their friends, and hostile to their Canadian rivals. These Iroquois, as the French, or Maquas, as the Dutch called them, were really a confederacy of five nations, the Mohawks, Onondagas, Cayugas, and Senecas, who, being afterwards joined by the Tuscaroras, came to be known as the "Six Nations." In 1754, the governor of the colonies, acting under the instructions of the English government, summoned delegates from all these tribes to Albany, where a treaty was made with them, having for its object mutual defence against the French. Benjamin Franklin took advantage of this congress to propose a plan of union to the colonies themselves, pointing out that the French, being under one government, while the colonies were thirteen in number, were much more powerful than they on that account. But the men whom he addressed were not yet ripe

for union, although quite ready to combine for the purpose of fighting the French. War was accordingly declared, and the "Old French and Indian" campaign opened in 1755, to be renewed with every succeeding year until the French had been driven from the Ohio, by Washington; from lakes George and Champlain, by Generals Johnson and Lyman, and, lastly, from Quebec, by Wolfe, with the loss of which fortress passed away, forever, the last hope of France for the supremacy of the New World.

From its discovery by Champlain down to the beginning of this war, or for a period of rather more than a hundred years, the whole region extending from the St. Lawrence to the Hudson was practically left in the undisturbed possession of the red man. The two lakes, stretching north and south, formed a pathway through the wilderness for the canoes of tribes who were constantly at war with each other, and whose destructive raids, sparing nothing in their course, drove away all who were inclined to occupy the country. Lake George, indeed, had never been visited by a white man until 1642, and was then only seen by Father Jaques, a Jesuit priest, and two other Frenchmen, all being prisoners in the hands of a party of Iroquois, returning to their home on the Mohawk after an attack upon their northern foes. Four years afterwards, being then free, Father Jaques returned to the lake, accompanied by Bourdon, the engineer-in-chief to the governor of Quebec, and six friendly Indians. They took possession of the, as yet, unexplored sheet of water on behalf of France, calling it *Le Lac du Saint-Sacrament*, a name which it bore for rather more than a century, or until after the battle of Lake George, in 1755, when the victorious General Johnson changed its name to that of the reigning British king. But before this, in 1731, while the tribes were temporarily at peace, the French had advanced to Crown Point, near the southern extremity of Lake Champlain, and built a fort, which they called *Frederic*. This was an encroachment on the territory of the Five Nations, who claimed all the country lying along the lakes, country of which Champlain's discovery could not, in their opinion, dispossess them.

Although not yet the formal allies of Great Britain, these tribes acknowledged the sovereignty and considered themselves under the protection of the King of England, so that the colonists made a strong protest against this act of the French, but took no further steps, at that time, to enforce the rights of their Indian friends. In 1755, however, the English, as we have seen, felt that something must be done to break through the barrier which France was always strengthening against their westward expansion. War was accordingly declared, and the opening scenes of the campaign decided upon at Albany took place on Lake George, about whose natural features something must be said before we follow the flag of England to its first victory in this momentous struggle.

It is but a short journey from Albany to the head of Lake George, the railway following the upper reaches of the Hudson as far as Glen's Falls, where the river makes a sharp westward turn and soon after becomes a mountain stream, whose sources must be sought in the Adirondack wilderness. Glen's Falls is full of great sawmills, and the centre of an immense trade in timber, of which enough is cut here annually to girdle the earth with deal boards. Lumbering parties ply the axe, during the winter months, on all the streams which are tributary to the Hudson above this point, piling vast numbers of logs on their banks for the freshets of the following spring to carry to the "Big Boom" which bars the main stream at Glen's Falls. Here the river is sometimes quite full of logs for a distance of four or five miles behind the boom, and presents an extraordinary appearance to unaccustomed eyes.

Lake George is nine miles north of Glen's Falls, situated at the southwestern margin of the Adirondack wilderness, and lying upon the watershed of the country separating the Hudson and St. Lawrence. It is thirty-four miles long and varies from one to four miles in width, while it becomes very narrow and river-like in appearance just before emptying itself into Lake Champlain, which is some three hundred and fifty feet below its level. Its water is perfectly pure and pellucid, of a bright blue color, and sixty fathoms deep in the deepest parts of the lake. It is closely hemmed in by mountains which are densely clothed with forest, and rise, for the most part, abruptly from the water to heights of one thousand five hundred or two thousand feet. The lake contains as many islands as there are days in the year, so, at least, says the popular voice, and these vary in size from mere rocks to half a mile in length. Some are bare, while others are covered with foliage, but all of them are conspicuously ice-ground, the smaller islands looking just like whales' backs appearing above the surface of the water. Wherever the banks rise with sufficiently gentle slopes from the water, as well as upon many of the larger islands, the summer residences of wealth and refinement give a most agreeable air to a prospect which, without these, would be beautiful, indeed, but entirely primitive in its character. Only the head of the lake offers any cultivable soil to settlers; its mountain flanks being without those terraces of drift soils which line the sides of every river valley in New England. The forest, accordingly, feeds only upon such scanty *débris* as the slow decomposition of gneiss and schist affords, and roots are seen penetrating into crevices and clinging around rocks which are, apparently, incapable of nourishing anything but lichens and mosses. Hence there are no cleared settlements on Lake George, whose shores, but for the summer homes in question, would be as complete a wilderness to-day as when they were trodden only by the foot of the redskin.

Around the head of the lake are a number of excellent hotels, which are crowded by holiday-visitors during the summer heats. The largest of these, named Fort William Henry, after the little stronghold, of which more hereafter, is capable of sleeping six hundred guests, and its broad balcony, looking right down the narrow, mountain-girt stream, affords one of the best possible views of a scene that reminds the English tourist of Loch Katrine. Immediately behind the hotel stands Mount Prospect, whose summit, eighteen hundred feet above the lake, is easily reached by following a wagon-road leading to a small summer resort, perched at the summit for the accommodation of those who desire to spend their vacation in keen and bracing air.

Thence the view, if it commands a wilderness, is extensive and impressive. Southward, the Hudson River winds in grand bends through a flat, drift-covered country, the old bed of that great lake already referred to as having at some former period occupied the valley of the upper Hudson. On either side of this ancient lake-bottom rise the ranges that have already been described as forming its lateral boundaries, which, together with the flat country they enclose, recede southward until they are lost to sight in the hazy distance. Here and there a bend of the Hudson introduces a shining line into the otherwise monotonous landscape, while the "Big Boom" of Glen's Falls is plainly to be made out by the curving mass of logs which obscures the glitter of the stream at this point. Looking west, the eye roams over the Adirondacks, a confused tumble of high, forest-clad mountains, and a region which, although within the confines of New York State, remains, as yet, completely untouched by civilization, unless the sportsman, seeking his game there, among an endless succession of lakes, may be considered as its forerunner. Northward, the narrow lake threads dark, embowered hills with a line of silver, which carries the eye onwards to a cross range of far-distant mountains, bounding the southern shores of the St. Lawrence with a serrated wall of heavenly blue. Eastward, the lake, with the hotels and houses circling its beach-fringed head, lies at the spectator's feet, while over the feathered crest of its farther shore peep the hazy outlines of the Green Mountain range.

The path to the summit of Mount Prospect affords a pleasant glimpse into the inner life of those dense woods of spruce and maple, birch and chestnut, which have succeeded to the primeval forests of pine that covered all Eastern America before man made his appearance on the scene with fire and axe. The day was sunny, and the air of the open wagon-road seemed, at times, alive with butterflies, moths, and other insects, some of which latter, indeed, could have been advantageously spared. The beautiful "swallowtail" (*Machaon*) was very abundant, rising by hundreds at my approach,

from any little patch of moisture on the road, and seeming, so great were their numbers, to come out of the earth itself. With them were associated a few "Camberwell Beauties," while, fluttering over the low banks on both sides of the way, were thousands of a beautiful black-and-white moth, whose name I do not know.

The shrubby undergrowth among the trees was gay with pink columbine (*Aquilegia*), yellow potentillas, and the white, star-like blooms of the "bunch-berry," a species of *rubus* that abounds in every clearing. Scarcely less conspicuous was the liliaceous *Smilacina*, whose pretty blooms are like a tiny "meadow-sweet." Every patch of sandy soil was crowded with the king fern (*Osmunda regalis*), while the no less beautiful *Osmunda interrupta* was almost equally plentiful. The woods themselves were lighted up here and there by the little Star of Bethlehem (*Trientalis anemosum*), the bell-wort (*Uvularia sessilifolia*) and a "Lord and Lady," quite different from ours, called *Arum triphyllum*; while more than one of the lovely orchids we name lady's-slipper (*Cypripedium*) occurred in the course of the walk. The bed-rock of the mountain, here of gneiss, there of a garnet-bearing schist, had some difficulty in showing itself through a covering of drift, which was closely stuffed with travelled boulders of all sizes.

Passing, in the midst of this primitive wilderness, a solitary log-house, I saw a strapping young farmer, manfully battling, plough in hand, for the redemption of a tiny patch of land from rocks and forest. The task, to my uneducated eye, seemed entirely superhuman, and the man a very hero. Such soil as he had already turned was black and sour-looking, encumbered with great stones, and choked with the roots of trees. The rough surface looked still more uninviting from the charred trunks which lay, here and there, upon it, and Nature herself seemed to forbid the idea that this could ever become a seed-bed. Such was the ground which, hopeless as the attempt seems to a layman, the farmers of New England have converted from a wilderness into wheat-fields.

Smile as the forest may, bordering a road cleared through its recesses, it puts on another aspect as soon as that road is left. Returning from Mount Prospect, I ventured to follow what was described to me as a conspicuous trail, leading directly through the woods to Fort William Henry, and saving more than half the distance I had traversed in the ascent. Here, after a few minutes, injudiciously hunting the lady's-slipper, I became hopelessly lost, and had I not taken a bearing with a pocket compass before starting, might easily have wandered for hours in the wrong direction, to find myself turned aside again and again by crags, in trying to get to the bottom of the hill. Fortunately, the magnet set me once more in the path within half an hour, a sufficient experience of forest walk-



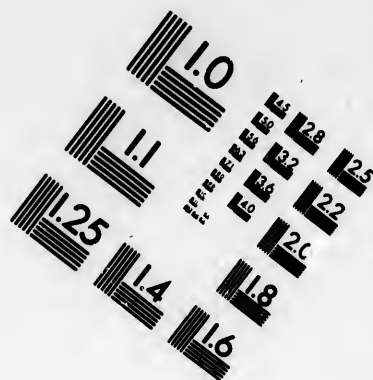
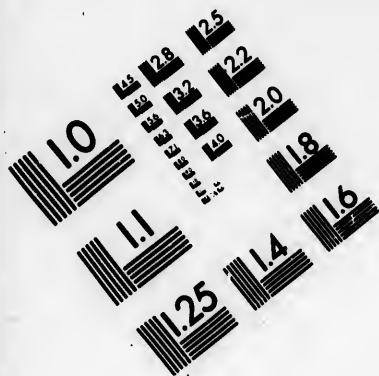
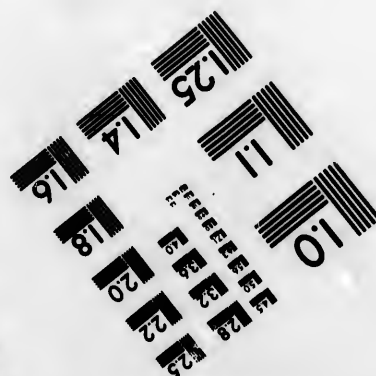
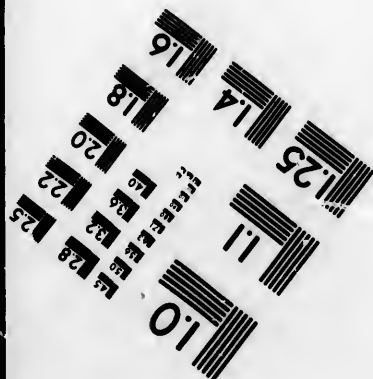
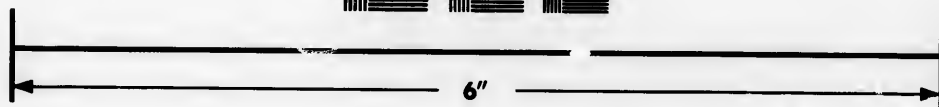
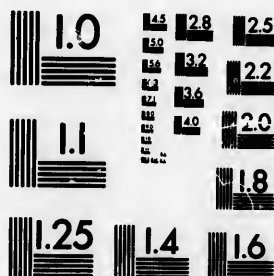


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ing for any one wishing to appear in a costume more becoming than rags at the evening *table d'hôte*. Such, however, matching the character of the soil he tilled, was the country hemming in the early settler on every side, and such too was the ground over which we left the soldiers of civilization and savagery marching in company to begin the encounter which was to end, a few years later, in the complete discomfiture of France.

The "something" which the English, assembled at the Albany conference, felt called upon to do, they set about accomplishing as follows. In the summer of 1755 they built a fort a few miles south of Lake George, then called the Lac du Saint-Sacrament, upon the spot already mentioned as that where the Hudson bends suddenly westward, and very near Glen's Falls. From this rude stronghold, then called Fort Lyman, after the officer who had raised it, but afterwards known as Fort Edward, General Johnson, the commander of the provincial troops, advanced with an army to the head of Lake George. His plan was to go down the lake with half his force, which included a number of Indians led by a famous old Mohawk chief called Hendrick, to intrench himself at Ticonderoga; the narrow strip of land between lakes George and Champlain, to wait there until the rest of the army could be brought down to join him, and then to attack Fort Frederic, the position which, as we have already seen, had been taken up by the French on Champlain.

But while he was preparing to move, Vaudreuil, the Governor-General of Canada, hearing that a considerable body of men was assembling at the head of Lake George, and fearing that a successful attack upon Frederic might be followed by the invasion of Canada, sent the Baron de Dieskau, with a mixed force of French soldiers, Canadians, and Indians, to meet him. This officer waited at Fort Frederic some time for the arrival of the English, but finding no prospect of their approach, determined to go and seek them. Accordingly, embarking with two thousand men, he sailed to the southern extremity of Lake Champlain, which, on the farther side of the range forming the eastern shore of Lake George, overlaps nearly the whole length of the latter lake.

Upon his arrival there, an English prisoner, taken by his scouts, informed him that Fort Lyman was unfinished and without cannon, and that Johnson was lying at the head of the lake intrenched, and also without artillery. Being within striking distance of either point, he at once determined to attack the fort, whose capture would cut Johnson off from his supplies and compel him either to return, only to find Dieskau in a strong intrenched position, or to surrender at discretion. But the French commander's troops, consisting largely of Canadians and Indians, were totally unable to comprehend even such simple tactics as these, and were, besides, suspicious that the

fort was, after all, defended by cannon, of which both Canadians and Indians had a peculiar dread. In vain did Dieskau attempt to overcome their reluctance to be led against Fort Lyman, so, having no alternative but to attack Johnson or retreat, he chose the former course, and marched his army towards the head of Lake George.

Apprised by his scouts of the presence of the French in force, Johnson warned Colonel Blanchard, who was in charge of Fort Edward, by messengers, of his danger, and, after a council of war, determined to attack Dieskau's advancing army. Accordingly, he detached a party, consisting of twelve hundred men, commanded by the Colonel Williams whom we know as the founder of Williams College, and comprising a number of Indians under the leadership of old Hendrick. Scarcely had they started than Johnson began to intrench himself on the spot where the hotel, called Fort William Henry, after the English work, is now situated. Meanwhile, Dieskau prepared to receive Williams by extending his troops in the form of a crescent moon, whose horns were hidden from sight by the thick forest which covered all the country. Into the very hollow of this half-moon did Williams march his whole company, only to find himself exposed to a musketry fire which galled his front and both his flanks at the same moment. The English fell in heaps, Williams and Hendrick being among the first to drop, and, but for the skill with which Colonel Whiting, succeeding to the command, organized and carried out the retreat, the whole party would have perished. He, however, fell back in fair order upon Johnson's supports, and, the latter having in the meantime constructed a tolerable shelter of logs and sand, this received the broken English before they had become demoralized.

Dieskau, however, was not slow to follow up his advantage, and, after collecting his widely spread wings, marched to the attack of Johnson's now intrenched position. But the fortune of war had already changed sides. The English retreat was orderly, and the men, as they tumbled in over Johnson's breastwork, were easily rallied behind it. Dieskau himself, after opening fire at a distance which rendered musket-balls harmless, halted his troops for some time, while he threw his Indians out into the forest with a view of flanking the intrenchment on either side. This delay gave the fugitives time to recover themselves, while the French general's movement, being discovered, was easily defeated by a few discharges of grape showered among the flankers, who, being Indians and dread-ling artillery, at once fled.

The frontal attack, although prolonged for five hours, proved a failure, and at four o'clock in the afternoon English and Indians together leaped over the breastwork and charged the enemy. They fled and were vigorously pursued for a short distance, but Johnson;

who was indeed wounded, showed no energy in following up a victory which had really been won by General Lyman, on whom the command had devolved very early in the day. Dieskau, an able and gallant soldier, was also wounded, and fell into the hands of the English, while, of the two thousand men whom he led to the attack, it is said that scarcely more than a thousand escaped wounds or death. These, on their retreat, were met by a small party of colonial soldiers, about two miles from the battle-field, and defeated with the loss of all their baggage and artillery. Thus ended the battle of Lake George, an engagement small in the number of the forces employed, but great in its effect upon the feeling of the country, which, for the first time, began to believe that the tide had turned, and that the power of France in North America was about to ebb.

Two years later, indeed, the great Montcalm himself attacked and, after a siege of six days, succeeded in wresting Fort William Henry from the English, who, though vastly outnumbered, terminated a gallant defence by an honorable capitulation. But the French general, to his eternal disgrace, took no proper care that the terms of this surrender should be observed. His savage allies were permitted to butcher the sick and wounded as they were passing out of the fort, while the fort itself was burned and many of its brave defenders thrown alive into the flames. An escort of only three hundred men was provided to guard the prisoners of war, who were accordingly slain on the march to Quebec, men, women, and children, to the number of fifteen hundred, by the Indians, who swarmed in the woods bordering their route. Eager to revenge this massacre, the English, in 1758, despatched Abercrombie, with fifteen thousand troops, for the purpose of driving the French from Ticonderoga and Fort Frederic; but he failed utterly and ingloriously of his object from want of military skill. Finally, it was left for Amherst to reduce both these places in the following year, and thus to break, forever, the hold of France on the lakes.

It is difficult to imagine any two contiguous sheets of water more unlike than lakes George and Champlain. The latter extends, northward from its fellow, to St. John, in Canada, a distance of two hundred miles. Its least breadth is half a mile, and its greatest eighteen miles. Its upper end is narrow and shallow, containing clay-discolored water, which, however, becomes suddenly deep and clear at Crown Point, where the banks recede from each other some four or five miles. Thence, northwards, its depth is considerable, and its average width is from ten to twelve miles.

While the mountains hemming in Lake George rise, as we have seen, abruptly from its waters, and are entirely free from those terraced deposits of drift soils which have so frequently challenged our attention, the flanks of Champlain are of an entirely different char-

acter. These consist of level terraces of clay and alluvium, which extend for many miles back from the margin of the lake, and are covered with cropping of various kinds. Their widely receding flats have already become partially lost to sight in the haze of distance before there rise from them, on the east, the Green Mountain range, here displaying its loftiest summits, and on the west the high and tumbled masses of the Adirondacks, the beauties of both range and wilderness being half hidden, half enhanced, by the gauzy veils of azure which they wear.

The Champlain of to-day is, quite evidently, only a meagre remnant of a sheet of water formerly vast as an inland sea, and, indeed, there is evidence to show that it was once an arm of the Atlantic itself. Marine shells are found abundantly in its clays, which have also yielded the remains of whales, sufficiently proving that at some former time the whole valley of the St. Lawrence, together with the Champlain basin, was an inland extension of the ocean—an American Mediterranean. Lake George, standing three hundred and fifty feet above the level of this estuary, was never overflowed, and hence the absence from it of any such deposits as the Champlain clays, and the difference in the appearance of the two sheets of water.

It is time to ask, more particularly than we have yet done, what was the origin of those terraces of alluvium of which, sometimes one, sometimes many successively, rise upon the flanks of almost every lake or stream in northern North America? But the answer to this question is too long to be included in an already overlong chapter, while the problem itself can best be discussed in presence of the splendid illustrations furnished by Canada to the wonderful story of the "Great Ice Age," of which the phenomena of the "Champlain period" formed the closing incidents.

CHAPTER XX.

CANADA, PRESENT AND PAST.

MONTREAL is reached from Lake Champlain after a tame railway ride across the old estuarine flats of the St. Lawrence; the one and only sensation of this short trip consisting in the traveller's first view of the grand river and of the long tubular bridge which spans it. The Canadian cities will not detain us long, for we are flying homewards now, and only from the decks of the river and ocean steamers which will carry us, the one from Montreal to Quebec, the other from Quebec down the St. Lawrence into the Atlantic, shall we have an opportunity of studying a feature or two of Canada present and past. But, even so, there is something to be seen and said of the strange physical events which prepared alike this country and New England for man's use and occupation.

Montreal is almost as full of churches as a Continental town, almost as Catholic in its faith, and almost as un-English in its language. The traveller is roused from sleep by the clang of church-bells, and, once in the streets, finds them full of French faces and re-echoing the French tongue. The general appearance of the city is neither American, French, nor English, but a curious mixture of all three. The more important business quarter contains warehouses and offices like those of New York or Chicago, but the wharves and quays of the St. Lawrence are faced by houses such as might border the Seine, while markets, which are entirely French in their character, cling, as they do on the Continent, to the walls of churches and public buildings. The residential streets and suburbs, on the other hand, are thoroughly English in style, their detached dwellings, trim lawns, bedded gardens, and neat fences recalling memories of home to every British tourist. The numerous churches, although not without some architectural pretensions, are none of them beautiful; their stained glass is poor, and their altar-shrines tinsel. Nevertheless there is everywhere evidence that the Catholic Church is rich and powerful in Montreal, and that the French Canadians of the city are her good and liberal sons.

Notre Dame, the cathedral, has a fine tower, whence a capital view of the city offers itself to all who have wind and limb for the ascent. I knew that I was no longer in the States when, with my

foot upon the first step, I heard, "Il faudra payer ici, s'il vous platt, monsieur." And the words stuck by me when, from the top, my delighted eyes took in the almost sea-like weep of the great river, while my mind asked the questions—Why are there less than a dozen ships lying at these ample wharves? Why are there only one or two grain-elevators here, while there are scores at Buffalo, both cities tapping with almost equal advantages the wheat-fields of the north-west? Why are there so few factory chimneys and so many church spires? "Il faudra payer ici, s'il vous platt, monsieur." It was the only answer that suggested itself, but the half-mendicant phrase seemed to indicate a gap, wider than the St. Lawrence itself, between the commercial instincts of French and Americans.

Every visitor to Montreal must shoot the Lachine Rapids, situated some nine miles above the city, and it is easy to do so by taking the afternoon train to Lachine, and there embarking in the steamer which plies between Montreal and Ottawa. A few minutes afterwards the *Prince of Wales* enters the rapids which, in the first instance, only indicate that they are rapids by the smooth, oily-looking swirls covering the surface of the stream. Presently, however, a line of broken water is seen ahead, extending right across the river; the swirls become hurrying liquid masses, and, glancing at the wheel, we see that its spokes are grasped by four pairs of strong hands, while as many wide-open eyes are intently fixed on the line of breakers in front of the vessel. She, quite suddenly, and, as it seems, without effort on the steersman's part, finds herself shooting through a veritable trough, with an immense depth of water under her keel, but closely hemmed in upon either side by great, shelf-like rocks, which hardly rise to the surface of the racing water. Scarcely has the passenger appreciated the skill which brought his ship so deftly into the very middle of this passage, through which, narrow as it is, the bulk of the St. Lawrence seems to be rushing; scarcely has he realized that this is the only notch in the ledge over which the river here throws itself, wide enough to admit the steamer, than the latter plunges headlong into a confused sea of angry waves, which appear to advance upon her, roaring and threatening her destruction. But they only appear to advance, really breaking always in the same spot, and, through all the turmoil the *Prince of Wales*, giving half a dozen moderate rolls, easily pushes her way into still swift but smooth waters, which carry her quickly to the wharf at Montreal.

Quebec is one hundred and eighty miles from Montreal, and the trip is much more pleasantly made by way of the St. Lawrence than by rail. The steamers, indeed, only travel by night, but they leave the wharf before the summer daylight has quite faded, and, if the sky be clear, the deck is sure to prove a pleasant place to lounge for an hour or two before turning in. Embarking at Montreal, the

evening proved absolutely perfect, without a cloud in the heavens, or a breath of wind in the air. The river-banks, which do but channel here the wide estuarine flats of a past time, are low and uninteresting, so that little was lost, so far as the scenery of the shore is concerned, as the sun withdrew his light. But when he was gone the coloring of both the river and sky became almost indescribably beautiful. The heavens, for a great distance around the zenith, appeared of the darkest violet tinge, which gradually paled to a cold steely gray on the horizon, save where this was painted in the west with gold and saffron, between whose softly gradated tints it was impossible anywhere to draw a distinguishing line. The surface of the river was glassy smooth, except for certain slowly moving, rippled patches, where the shining water, touched by the finger-tips of wandering zephyrs, trembled no less gently than a maiden at the first soft kiss of her lover. Such smooth and gentle undulations as radiated, in widely separated lines, from the moving steamer towards the banks on either side, were brought into view only by the magic of color. The slopes of their near flanks reflected the saffron and gold of the west, while beautifully blended violets and grays gleamed from the farther sides of their crests. Meanwhile, the ship's wake, overshadowed by the dense smoke issuing from the funnels, looked almost awful in its garment of gloomy purples. Presently, as the yellow in the west faded, the northern horizon became lighted with a pale aurora, changing the tints of the water-ridges to steel-gray on one side and pearly white on the other, while the stars, brightening in the violet sky, shot wavering arrows of light across the heaving mirror of the stream.

Quebec, like Montreal, is a French town, "but more so." It is built on a tongue of elevated land which, forming the left bank of the St. Lawrence for several miles, completely dominates the river at this point. The loftiest part of the headland, three hundred and thirty feet above the sea, is crowned with the fortifications of the citadel. These occupy about forty acres, and are considered to make the "Gibraltar of America" quite impregnable. Just below the citadel, and almost surrounding it, is the upper town, itself enclosed with walls; and below these, built on a margin of flat land which environs the rocky promontory, is the lower town. This is devoted to business, and consists of narrow, winding streets, crowded with shops and offices, for the most part bearing French names, and by no means imposing in appearance. The upper town contains many buildings belonging to great religious societies, while the remaining surface, where not occupied by fortifications, is covered with quaint old French houses, generally many stories high, and roofed, like the churches and public buildings of Lower Canada, with shining tin. "Dufferin Parade," the promenade of the upper town, is two hun-

dred feet above the level of the stream, and thence the banks of the St. Lawrence are seen to be lined for miles with great "bays" filled with timber, while the summer visitor is unlucky if he do not catch a glimpse of more than one of the huge rafts which are constantly bringing lumber down from tributary streams.

A few miles from the city are the Heights of Abraham, the scene of Montcalm's defeat and Wolfe's victory, and the grave of both commanders. A modest column marks the spot where Wolfe fell, and another, placed in the governor's garden, commemorates the great Frenchman. It was a bold stroke, that expedition against Quebec, which brought to a close, happy for England, but happier for America, the hundred years' war between the English and French in America. William Pitt had, indeed, resolved not merely to foil the ambition of Montcalm, but to destroy French rule in the New World altogether; so while Amherst, as we have seen, was driving the French from lakes George and Champlain, Wolfe was sent out from England in command of eight thousand men, with the special object of reducing Quebec, then the strongest fortress in the world.

Wolfe, although a hero and a genius, totally failed, at first, to draw Montcalm from his inaccessible fastness, and lay for six weary weeks inactive, sick, and almost despairing in his camp on the St. Lawrence, opposite the citadel. At last he discovered a steep and narrow path which led from the shore to the Heights of Abraham, a path which, indeed, demands good legs and lungs on the part of such peaceful tourists as now scale it unopposed. Sending Captain Cook (afterwards so famous as a navigator) to make a feigned attack elsewhere, Wolfe dropped down the river in boats to the path in question. He was himself the first to leap ashore and scale, by the help of crags and bushes, the steep trail where two men could not go abreast, and at daybreak on the 12th of September, 1759, his whole force stood in orderly formation on the plateau. Had Montcalm, even then, remained in his fortress, all might have been well with him, but he chose to come out and fight the English in the open, and was defeated. "The fall of Montcalm and the submission of Canada put an end to the dream of a French empire in America. In breaking through the line with which France had striven to check the westward advance of the English colonists, Pitt had unconsciously changed the history of the world. His conquest of Canada, by removing the enemy whose dread knit the colonists to the mother country, and by throwing open to their energies, in the days to come, the boundless plains of the West, laid the foundations of the United States." *

It was blowing furiously as the steamship *Polynesian*, leaving Quebec with passengers and mails on board, turned her head tow-

* "A Short History of the English People" (Green).

ards the Atlantic, to meet great, crested, sea-green waves marching in stately rows up the wide reaches of the St. Lawrence. But it became calm before evening fell, and again I watched the play of purples, golds, and grays upon the undulations radiating from our steamer's bows, while a crescent moon hung above the blue-black silhouette of the Laurentide mountains.

This range, probably the oldest in the world, divides the St. Lawrence from Hudson's Bay, and stretches from Lake Superior to the Atlantic. It stands about two hundred miles removed from, and runs parallel with, the river, whose northern banks are formed by its magnificent mountain shoulders, here covered with forest, there gashed by torrents or rough with crags. Only one large tributary, the weird Saguenay, pours its clear black-brown waters through a profound gash in the Laurentides, into the green St. Lawrence; such other streams as flow from the northern watershed being for the most part cataracts. Nor is the right bank of the river deficient in grand mountain features, for the same Alleghanian folds which traverse the Eastern States here hem the stream so closely that their tributaries are seldom more than twenty miles in length. Next to the ocean-like volume of the lower St. Lawrence, nothing surprises the traveller more than its comparatively narrow valley. The crests of the ranges which bound it on either side are both visible from the deck of the steamer, and one asks, in momentary forgetfulness of the five great lakes, and of Niagara's outpour—Whence all the wealth of waters hurrying through this trough-like channel to the sea?

The banks of the St. Lawrence are bordered with many conspicuous terraces, which rise in successive levels, from the water's edge to heights of several hundred feet. These are the greater counterparts of the river terraces of New England, which, in view of their practical importance no less than of their geological interest, deserve something more than a passing glance. The cultivable surfaces, whether of Canada or northeastern America, have certain notable features in common. They are uniformly flat in the valleys, whose sides are as uniformly terraced, while great rocky masses here and there heave themselves like islands, so to speak, above the level sea of soil. But for this fertile garment, which only partially wraps the stony skeleton of Canada and New England, man could find no home in these countries, where he can but cling to the skirts, instead of making the bosom of mother earth all his own. What and whence, then, is this hospitable table, spread, as if by art itself, evenly over the hollows and shoulders of adamantine hills, themselves incapable of nourishing anything but the hardest forests or feeding other than the wild forest creatures?

Arable soil may have one of two origins. It may result from the

slow decomposition of the rocky crust of the globe, which moulders superficially into beds of earth under the influence of the oxygen, carbonic acid, and moisture of the atmosphere; or the rocks themselves may be broken and ground to powder by the action of mechanical forces, their *débris* transported from the higher to the lower grounds and distributed in a variety of ways. In the former case, there will, of course, be a certain coincidence of the actual surface with that of the subjacent but undecomposed rock, while both rock and soil will have the same chemical composition. The earthy covering of many countries, as, for example, the southern states of America, France, Italy, and Spain, have been thus produced, but not so the soils of northeastern America. A glance at the northern bank of the St. Lawrence will demonstrate that there is no relation whatever between the contours of the Laurentides and the level terraces which they support, while the soils everywhere remain nearly uniform in character, although the rocks upon which they lie may be granitic here, slaty there, and calcareous elsewhere. Hence we are obliged to conclude that the fruitful earth of these regions has resulted from the trituration of rocks foreign to the district in which they are found, and that the *débris* has been transported from its place of origin by some powerful mechanical agent. I say powerful, because immense numbers of bowlders, some of which are of enormous dimensions, requiring great force to remove them, have been carried away and are mixed with the finer detritus.

Indications of such transport are found all over eastern America, which, from the Arctic circle down to latitude 40° N., is covered with stratified and unstratified drift, consisting here of sand, there of clay, and elsewhere of bowlder-trains. Wherever found, these deposits evidence that the moving agent operated in a north and south direction, the material of which they are composed being always derived from rocks lying to the northward.

There are only two natural agents capable of effecting displacements of this kind, viz., icebergs and glaciers. The former are enormous masses of ice which, breaking off from the ends of polar glaciers that descend to the sea, are floated by currents towards the equatorial regions of the globe. They carry immense quantities of rock and earth upon their surfaces, and when they melt distribute these at random over the ocean-bottom. Glaciers, on the other hand, are solid rivers of ice which descend the valleys of such mountains as are capped with perpetual snow, and erode them in their passage. The hardest rocks are broken off and worn by the friction of the ice-river, which carries immense quantities of *débris* imbedded in its bottom parts, as well as the detritus that falls upon its upper surface from rocks rising above the ice. Surfaces over which the glacier passes become smoothed, and even polished, by its friction, while

they are worn into the mammillated forms known as *roches moutonnées*, and at the same time grooved and scratched by the stones imbedded in the moving ice.

Has the arable soil, with its contained bowlders, been transported from more northerly latitudes by icebergs or by glaciers? The former is impossible, if only for the following reason. Drift is found at very great heights upon many mountains, as, for example, on Mount Washington, the dominating peak of the White Mountains, where it reaches an elevation of six thousand feet above sea-level. Now, if this drift were brought into its present position by icebergs, Canada must once have been covered by an ocean at least six thousand feet deep, or such a sea as would have extended from Hudson's Bay to Pennsylvania in the south, and to Winnipeg on the west. But among all the many remains of old terraces to be found at different levels all over the country in question, not one is more than five hundred feet above the sea, a fact which disposes of the idea that Canada was ever covered by an ocean deep enough to float icebergs over the summits of the White Mountains.

There remain the glaciers, of whose existence and prodigious proportions the whole of northeastern America furnishes proofs. All the mountains, whether of Canada or New England, are true *roches moutonnées*, and have their surfaces everywhere covered with grooves and scratches, which, for the most part, run from north to south. These glacial striae are found on the summits of some of the highest mountains, and even at heights of six thousand feet above the sea-level. There is, indeed, no escaping the conclusion that the whole of northeastern America was once covered with an ice-sheet of immense thickness, which moved slowly over the face of the country from the north towards the south. The ice was probably not less than eleven thousand feet thick on that part of the Laurentide range which abuts upon the Atlantic, where precipitation was greatest. It thinned gradually on the watershed as this trended westward, but remained an immensely high and dominating crest of ice which, so to speak, deluged the whole country south of it, flowing in a sheet of constantly diminishing but still vast thickness towards that part of the Atlantic now called the Sound. The natural escape for the Canadian ice-sheet would appear to be the valley of the St. Lawrence, but not only was this outlet completely filled with ice, but it was precisely about its mouth that the glacier was highest, and this, consequently, sloped towards the continent instead of towards the Atlantic.

The mechanical effect of this moving mass of ice upon the surface of northeastern America was immense. The glacier exercised a pressure of more than a thousand pounds per square inch; it broke off, rubbed, and rounded the superficial rocks, pushed its way along

the valleys, carrying with it all such soils, the result of antecedent decomposition, as they contained, and transporting an incalculable mass of *débris* of all kinds. This was, for the most part, lodged, not on the surface of the ice-sheet, through which only the tops of the highest hills protruded, but in its lower parts, which were crowded with soil, stones, and rubbish. As, century after century, this inconceivably powerful mechanical agent swept slowly over the surface of the country, meeting rocks of very various degrees of hardness in its passage, it dug more deeply into the soft, and less deeply into the hard, portions of its bed, and so produced the countless lake-beds which characterize the glaciated district. The river valleys, especially those which ran north and south, were also greatly modified by the erosive action of the ice, and their beds were deepened to an extent which would, in some cases, be quite inexplicable but for the hypothesis of the continental glacier.

It is known that North America was covered with forests before the advent of the ice-sheet, and it therefore becomes interesting to inquire into the cause of the great refrigeration of climate involved in the phenomenon of the glacial epoch. Many answers have been given to this question, answers which we have not time to recapitulate, and still less to sift, but, at least, there is no doubt that one of the most powerful of the causes in question was the greater elevation of northern North America in glacial times. The Laurentide range rose to such heights that its summit became covered with perpetual snow. Glaciers began to form everywhere upon its flanks, and increased in volume, little by little, until they covered the greater part of British North America. Finally, these glaciers, becoming confluent, attained the prodigious thickness and spread to the immense distances already cited.

But, after a time, the movement of elevation characterizing the glacial epoch was first checked, then arrested, and lastly reversed. This was the commencement of the "Champlain period," or the beginning of the end of the Age of Ice. As the mountains gradually lost their great height, snowfalls were as gradually exchanged for rainfalls, the *névé* ceased to accumulate, and the foot of the continental ice-sheet began to retreat. The climate becoming milder at the same time, the ice melted faster as less of it remained, and drowned almost the whole country in immense floods of water. The lakes and rivers of the Champlain period became of prodigious magnitude, while the inundations in question were aggravated by the continued subsidence of the land. In the course of time, lakes Erie, Ontario, and Superior formed one vast internal sea; the Mississippi basin was in the same condition, and, as we have already seen, an immense arm of the sea covered the whole valley of the St. Lawrence and extended over Lake Champlain itself.

Meanwhile, as the ice retreated, its contained masses of earth and stones were deposited at random on the surface of the country, only to become submerged, either in the great inland seas of fresh water, or in arms of the ocean which everywhere began to invade the country. Here they were sorted, rearranged, and deposited in beds of clay, sand, or of sand and bowlders mixed, according as the water was still, running, or torrential. Thus the immense arable plains which line the banks of the St. Lawrence were accumulated, and the same origin may be ascribed to all the rich river-bottoms of New England.

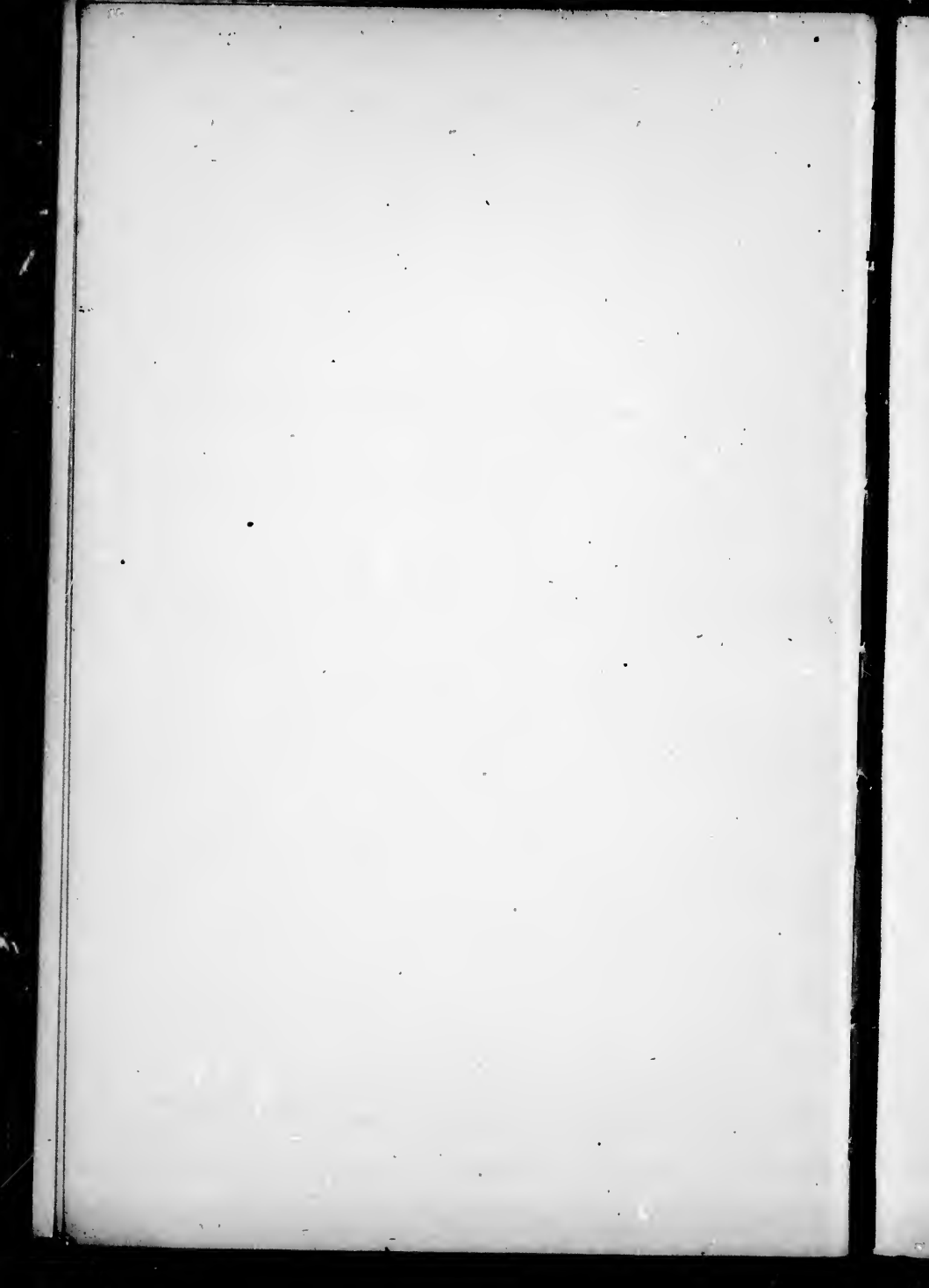
As for the terraces of drift which mount, step by step, to heights of five hundred feet on the banks of the St. Lawrence, the highest of them, like their smaller representatives on New England streams, are but the remains of deposits of the Champlain age, laid down at a time when the quantity of water escaping from the ice, together with the subsidence of the land, were both at their maxima. Later on, a second upheaval of the continent took place. The ocean withdrew to its present level, the lakes emptied themselves of their surplus waters, and the rivers, digging, with more powerful streams than those of the present day, through the detritus which filled their valleys, scooped out their existing beds, leaving upon their banks the terraces which witness to their earlier and prodigious volume. Concluding this short sketch of the origin of arable soil in Canada and New England, we arrive at the present or "recent" period of the geologist, having reviewed a lapse of time which sober estimates measure by at least two hundred thousand years. Such was the character of Nature's preparations for the use and occupation of North America by man, whose way in the New World has been smoothed for him chiefly by ice.

But, some reader may ask, is not this story a work of the imagination, a pure fancy, having no solid basis in fact? Well, we are out upon the Atlantic now, the blue Laurentides, with their softly rounded contours and stair-like terraces, are left far behind, and already we have passed the snow-crowned coasts of Labrador, Anticosti, and Newfoundland. Although it is mid-July, a cold sea is under our keel, a biting wind nips us on deck, and, night after night, we shiver while we watch and wonder at the arch of pale aurora crowning the northern sky. Yet we are scarcely north of the latitude of London, and only a few degrees south of us, the *Adriatic*, as we learn later, is enduring tropical heat while measuring steps with us on the voyage from New York to Liverpool. Meanwhile certain conclusive answers to the question I have put in the reader's mouth come upon us unawares. It was on July 10th, in lat. 50° 41' N., and long. 58° 2' W., that the *Polynesian* fell in with a train of magnificent icebergs, floating majestically with the polar current right

athwart our course. The day was cloudless, the sea calm, and for more than eight hours we continued to review the fleet of the ice-king, passing southward to its certain destruction in the warm waters of the Gulf Stream. Of the unspeakable beauty which these bergs displayed, of their fantastic pinnacles, awful precipices, and massive bases, as of their heavenly azures and opals, I am not concerned to speak, and could, certainly, make no adequate picture. But, at least, I can report that many of these floating masses of ice towered more than two hundred feet above the water, while the total height of some bergs was probably not far short of two thousand feet. Yet they were only the wasted children of Greenland's ice-cliffs, themselves a remnant of the old continental glacier, which still caps that country with a sheet of ice several thousand feet in thickness. Pall-like as that covering is, it conceals no dead continent, but swathes in its white folds, as with a mysterious, chrysalid robe, another America, which Nature is preparing for the use of future man.

9

THE END.



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