

NOTES GATHERED FROM THE HISTORY OF TEXTILES

IN order to picture with strongest expression the most primitive times, reference is constantly made to "the days when Adam delved and Eve span." Indeed, the arts of spinning and weaving take rank only just below that of agriculture in point of antiquity: which fact alone would prove their relative importance. After a rude provision against hunger and stress of weather, the first step toward domesticity and civilization made by a people is found invariably to be the fashioning of clothing: the substitution of textile fabrics for skins or plaited vegetable fibres. And always, if we search beyond authentic records, we come upon myths or picture-writings rich in allusions to those crafts which are the subject of the present paper. The Greeks, with fine imaginative sense, condensed centuries of economic history into the representations of their virgin goddess of wisdom, when they pictured her beneath the olive-tree, which she was fabled to have created for the good of her chosen people; or better, as holding the distaff, that first and chief instrument of civilization: standing for the foundation of the home, the establishment of peace and industry to the exclusion of blood-violence and indolence, the formation of the social bond, the conception of trade and commerce.

The crafts of spinning and weaving, modified and complicated by inventions, and transferred in modern times, as to their exercise, largely from man to machine, were long, as is too well known to need comment, distinctively feminine employments. This to the degree that the distaff came to be accepted as the symbol and synonym of woman. "The *distaff* is speaking" is the comment of a tyrannical German or Scandinavian peasant, if his wife dares to lift her voice in opposition to household laws framed by the masculine wisdom.

“The *distaff side*” is a term of frequent occurrence in old English genealogical records, referring, as is evident, to the female line of descent. Indeed, all literature and history from the Hebrew Scriptures and the Songs of Homer to the tales of the Puritans have celebrated women, either virtuous or frail, who have plied distaff and spindle for the fashioning of marvels of handicraft. Spinning was exclusively accomplished by women, and was often carried on by large numbers of workers in common, as if the factory system had been established on the shores of the Mediterranean three thousand years ago. So it is evident that the king’s daughter, the peasant-woman and the female slave were pledged by their sex to the same employments, and separated by no sharp line of demarcation such as to-day divides the self-supporting woman from her affluent, or aristocratic sister. To these women, who by the very nature of their occupation, were a civilizing force, the world owes a debt of gratitude not often recognized. For they were the unconscious propagators and agents of history. That mood or state best described as mental isolation, which is the accompaniment of manual labor, kept their ideas sharply defined, and shut out from their minds those rapidly succeeding impressions which confuse and blot one another until chaos ensues. The spinners and weavers, plying their fireside industries, no less than the rhapsodes of Greece and the Roman singers at the cross-roads were the sacred keepers of tradition. The distaff, equally with the stylus, is the symbol and emblem of history. The muse Clio, helmeted, shod with the tragic buskin, and raised to heroic size, no more fitly represents the story of man’s endeavor, than does the gentler, more humanly fair figure of the primitive home and hearth,

“Who as she plied the distaff,
In a sweet voice and low,
Still sang of great old houses,
And fights fought long ago.”

And in countries where the

pressure of modern times is least felt: in the pastoral lands of the Orient, in the poor Italian villages, in the mountainous districts of Spain, the original types of these spinners are still preserved. As an example, one may recall the huts scattered about the ruins of the ancient Herculaneum, at the doors of which, on any bright day, there assemble groups of spinning women, from the blooming girl measuring the flaxen threads which are to be woven into the household linen of her marriage portion, to the aged grandmother, sinister, scarred, seamed: in every line and feature a replica of Michelangelo's spinning Fate.

In passing, one simple fact regarding these humble workers is to be emphatically noted. It would seem at first that their existence and interests were a nameless part of that ephemeral, inconscient life which Nature scatters with apparent carelessness throughout that favored and lovely region. But upon examination, the thoughtful observer discovers that their labor is really significant; since with appliances differing little, or not at all from those in use in Homeric times, with no labor-problem confronting them except that of satisfying their personal needs, they produce fabrics perfect of their kind: thoroughly honest in material, strong in texture, made not to sell and to consume, but rather to use and to keep. Gradually, these observations of fact resolve themselves into an argument for economic reform: that is, a return to simplicity in method, the abolition of over-complicated mechanical contrivances, and, above all, the liberation of the craftsman from his present condition of servitude, which results from dividing the steps of manufacture into parts so insignificant that no one workman may be said to possess his trade; from robbing the human being of his individuality by unduly increasing the power and multiplying the functions of the machine; by blighting the imagination of the laborer in forcing him constantly to consider a part rather than the whole of the plan upon which he is engaged, and by depriving him of that keen,

exquisite pleasure which is derived from the sense of authorship,—a pleasure old as Creation itself, and repeated whenever an artificer looks upon his finished work and “sees that it is good,” whether that work be a world or a pin.

Returning from this modern digression to our early spinners and weavers, we find that their crafts were often carried over into the fine arts by distinguished women who recorded in their needle work the history which they, with their husbands and lovers, helped to make. Helen, the exciting cause of the first triumph of European civilization over Asiatic despotism is represented, in the *Iliad*, as engaged in embroidering the combats of the Greeks and Trojans; the emotions of Aeneas, as he viewed the Carthaginian wall hangings wrought with the great scenes of the Trojan War, are familiar to every school boy; while two thousand years later, Queen Matilda and her maidens similarly pictured the events of another turning-point in the world's destiny: preparing in the Bayeux tapestry, through the medium of a feminine art, an historical document stronger, clearer, less susceptible of misconception than the words of the clerkly chroniclers who described the Norman Conquest of England.

The crafts of spinning and weaving, which, as we have seen, long constituted at once the distinctive labor and honor of woman, are plainly dependent upon agriculture. This fact, together with its logical consequence—the interdependence of the sexes—has never, perhaps, been so well symbolized as in a carving upon an old sarcophagus in the Church of Saint John Lateran, in Rome, wherein the Eternal Father is seen as the Arbiter in the cause of Labor, giving to Adam an instrument of tillage and to Eve a distaff and spindle. Following this thought, it is interesting to study the primitive industries side by side; dividing the ancient world into sections, or belts, according to the animal or vegetable

products which furnish the raw material for the exercise of the crafts of spinning and weaving. These same divisions practically hold good to-day, and in the first, we find many of the most highly civilized portions of Asia, together with Germany, Gaul, Italy and Spain: the raw material being itself classified under the wool of sheep and beavers, the hair of camels and goats. In the Far East, we find a vast region, whose people unknown to the Indo-Germanic nations, clothed themselves in silk. Along certain rivers, like the Nile and the Rhine, and always in low-lying lands, the textile fabrics produced were varieties of linen. In larger tracts, north of the wool division of both Europe and Asia, hemp constituted the raw material furnished to the feminine industry. Lastly, the great expanse of India produced, from immemorial times, the raw material, cotton, from which were spun light fabrics, the processes of whose manufacture were handed down intact from generation to generation, so maintaining an invariable standard and quality.

To thus distinguish the races of men by differences in the material of their garments seems at first an unusual and meaningless characterization. But upon second thought, the justice and fitness of the scheme is quite apparent. The highest civilization belonged in antiquity and is still peculiar to the habitual wearers of sheep's wool. The mental qualities of the Chinese and their similars, fine and exquisite, but ill-adapted to the practical work of the world, have their parallel in the silk and tissues with which they delight to clothe themselves; while a like comparison may be made between the Hindoo mind and the tenuous web of the fabrics wrought in the regions where the doctrines of Buddha are dominant.

From each of the great divisions which we have indicated, it will not be without interest to note a few facts regarding the raw material, the finished fabrics and the means of cultivation, production and man-

ufacture there devised by human intelligence. In this brief survey, the elevated regions of Central Asia first claim attention as being, without doubt, the home of the primitive stock of the entire race of domestic sheep, just as they were the lands from whence migrated the parents of the modern European races of men. And the coincidence is not accidental, as the management and use of sheep have, from the beginning of history, formed a striking feature in the condition of man. That these animals are not natives of Europe is presumed from the fact that their remains have never been identified among the bones of quadrupeds found in ancient caves in any portion of the continent.

The wool produced in the countries of the Orient was utilized in the densely populated territory at the eastern extremity of the Mediterranean, especially by the Phoenicians, whose intelligence and enterprise as craftsmen and merchants have been paralleled once only in history—and that by the Florentines of the Middle Ages. To the great commercial and industrial cities of the coast, like Tyre and Miletus, the wool-growers of the European districts beyond the Black Sea brought their products, as well as did the shepherds of Asia. Miletus, from the sixth century B. C., was most famous for its fine snow-white wool derived from sheep reared in the interior of Ionia, as may be learned from the Greek and Roman historians and poets, whose works teem with allusions to Milesian fleeces, carpets and shawls, much as modern writings contain references to the fabrics of Cashmere and Delhi. "To recline on Milesian fleeces" was the ancient parallel of our own expression "to lie on beds of down," and from our present knowledge of the art-crafts of classical times we may believe that these fabrics merited the praise bestowed upon them. "The lovely Ionian city," as Theocritus names Miletus, in his idyl, "The Distaff," also became the mother of a colony which, planted in a district of the country now called Circassia, attained a rank

in the manufacture of textile fabrics second only to that of its metropolitan city: gradually obtaining trading relations with tribes representing several hundred differing speeches, and bringing into close and peaceful contact the most refined and the most uncultured peoples. From this one instance, therefore, is apparent the value of the crafts of spinning and weaving, not alone in the economic role which they necessarily fill in the modern world, but, far more, as civilizing agents of the first importance. And if we review in succession the peoples who have established and protected these industries, particularly when applied to woolen manufactures, we shall find, in each case, the same happy results; whether we recall the Netherlanders who owed to them their populous, wealthy towns, in which countless looms, busy for centuries, lapsed into idleness only when wars and religious dissensions had decimated the burghers; or yet again, if we instance the rapid increase in wealth secured to England through the protection of the wool industry by Edward III. and his queen, Philippa of Hainault, or if, finally, an example be made of the Florentines who supplemented and improved the work of the wool crafts of the Netherlands, with a so signal degree of success that a little people of artisans and shopkeepers rose to an almost controlling influence in the finance and the diplomacy of the world.

Again returning to ancient history, we find the Greek colonies of Lower Italy producing the finest white wool, similar to that of Miletus. To assure this quality of product, the sheep were reared in the huts of the shepherds, and were kept covered with skins, in order that the first delicacy and softness of the fleece might be retained in the adult creature. The animals not so treated were known under the name of "hairy sheep," and from these came brown and reddish wool, probably identical with the naturally colored products which are often to-day employed in the weaving of Oriental rugs. The white wool was used in the fine, closely-

woven fabric from which were fashioned the togas of the citizens, the creamy whiteness of which was jealously guarded by their wearers. The brown and grayish products were wrought into coarse textures which supplied clothing for the populace: so making of Rome, especially in its densely-crowded artisan quarters, the sombre, grave, forbidding city so vividly described by Crawford in his "Ave Roma."

As for the Western provinces of the Empire, they produced only indifferent wool and poor textiles. The "Germania" of Tacitus notes an abundance of flocks, together with an absence of skill in sheep-breeding; while the Gallic raw material, resembling hair more closely than wool, furnished the stuff for the hooded garments which were used by the native people, and also exported to the capital, there to be worn by slaves and needy dependents, for "a fence from wet," as appears from a satire of Juvenal. In Britain, the people of Kent, who were of Belgic origin, and more refined than the original inhabitants, first acquired the arts of spinning and weaving. But, in the fourth Christian century, sheep-raising was actively pursued in all parts of the island, as may be learned from a congratulatory address presented to the emperor Constantine, upon his accession to power at York; in which document the writer describes the country as rich in "an innumerable multitude of tame flocks, distended with milk and loaded with fleeces." But over the western countries already mentioned Spain held an undeniable advantage. Its varied surface came to produce a corresponding variety in the breeds of sheep, from the larger animals of the richer plains to the smaller races of the higher mountains. Furthermore, the course of history as developed in the peninsula co-operated favorably with the physical qualities of the country. The races of the wool-bearing animals were advantageously crossed and modified by the successive introduction of distinguished and differing species: first, from Asia, by the very early

Phoenician colonies in the region of the modern Cadiz; secondly, from Africa by the Carthaginians, during their brief possession in the third century B. C.; thirdly, from Italy by the Romans, during their dominion of six hundred years; lastly, again from Africa by the Moors who maintained a foothold in the country for nearly eight centuries. The various species, modified by crossings, climatic influences and food, finally resulted in the large, long-wooled sheep of the plains often naturally colored brown or black; the mountain sheep with fleeces of widely differing fineness and color; among these the merinoes, which held the first rank in all Europe until the high development in our own day of the sheep of Saxony and Silesia.

To separate the history of the crafts of spinning and weaving from that of the raw materials upon which they are exercised, is a difficult task; especially if the consideration be not limited strictly to the present day, when the means of transportation are so many and rapid that a material produced in any given country may be utilized at the antipodes without serious loss of time. Therefore, it will be well to note things of special interest, as they occur in the history of the same crafts applied to materials other than wool; afterward, to gather an idea of the factory system as developed in the eighteenth and modified in the nineteenth, and as probably about to become in the twentieth; finally to note the evolution of the craftsman with a view of understanding and furthering that which makes for the welfare of those who, together with the tillers of the soil, form the class most of all necessary to the continuance of government, of society and of human life itself: a truth which was recognized ages before the birth of political science; when Plato conceived his ideal republic, with the artisans in the commonwealth corresponding to the primitive passions in man; and when Rome gave to the same class the significant name of *proletarii*, that is, the class necessary to the State for the production of offspring.

In accordance with the plan indicated, the silk industry should next claim attention. The rearing of silk worms and the use of the filaments composing their cocoons for the making of costly fabrics were first practised in Oriental lands, India, Persia and China (as we now know) being most skilful in these processes. In the last named country, the tradition of the silk culture is carried back into the mythological period, and is co-aeval with the origin of agriculture itself. The two pursuits, husbandry and silk-manufacture, form the subject of one of the revered and ancient "Sixteen Discourses to the People." And it is there observed that "from ancient times the Son of Heaven (the Emperor) directed the plough; while the Empress planted the mulberry tree;" and that these exalted personages, not above the practice of labor and exertion, constantly offered an example to all men, "with a view of leading the millions of their subjects to be faithful to their essential interests."

From India, as it is believed upon the authority of a court historian of the Byzantine Empire, silk-worms were secretly brought to Constantinople in the sixth century A. D., the worms being concealed in the hollow staves of two commercially inclined monks. The same historian (Procopius) relates in his secret history, which is the contrast of his official annals, the story of the ruin of the silk industry and trade in Constantinople and Tyre, through the greed and blindness of the government. The Emperor Justinian, actuated at first by a praiseworthy economic impulse, succeeded, through the aid of the monks, in securing raw material free of the excessive charges demanded by the Persian monopolists. He fostered the breeding of silk-worms, and, consequently, the culture of the mulberry tree. Then, having benefited his subjects by the development of an attractive and lucrative industry, he proceeded, like many a modern official, to deflect the profits of the great enterprise from public channels to his personal enrichment.

By a series of tyrannical acts directed alike against the manufacturers and the merchants of silk fabrics, he effected that the industry should be thereafter conducted solely by the Imperial Treasury; thus apparently protecting the interests of the trade, while he resorted to the basest means of causing its ruin. His schemes were favored and advanced by two accomplices of power and great subtlety: one being the imperial treasurer himself; the other, the Empress Theodora, who often reverted from the princely role, which she tried so hard to assume, to the low, immoral instincts of the class and profession from which she had been elevated through the caprice and infatuation of the emperor.

From the eastern shores of the Mediterranean, the silk industry spread into Greece; to which country the breeding of the worms and largely the manufacture of the fabric were confined, until the middle of the twelfth century. At that time, the king of Sicily, having seized Corinth, Thebes and Athens, gained control of a large number of silk-weavers, whom he transported, with the apparatus and materials necessary for the practice of their craft, to Palermo, where he forced them to reside. From Sicily the industry was extended to Spain and to all parts of Italy; the first manufactory in the latter country being probably the one established in the Tuscan town of Lucca. There, the weavers, obedient to an impulse always peculiar to their craft, agitated political and economic questions incident to the time, and, for the reward of their pains, were ejected from the city, in the early years of the fourteenth century. Dispersing, they carried their art to Venice, Florence, Bologna and Milan, in all of which towns it is yet to-day more or less active. Always interesting to observe, the industry is more than usually attractive, as it is practised in the Lombard Plain. There, nature really justifies the expression: "a smiling landscape," for, as it appears in early June, sunlight, soft color, and picturesque objects combine to make a whole

enchanting to the traveller who, for the first time, visits this region of exquisite beauty. In the vicinity of Milan, as one approaches that city by the Lombard-Venetian railway, from the east, as far as the eye can reach, there lies an expanse of young verdure, suggesting by its indefinable and yet very evident quality the words of Carducci: "The divine green silence of the plain." The rice-fields, with their tender plants of short growth, are tended by comely peasant-women who stoop gracefully to their task. Then, far and near, stretch lines of the famous poplars which received their name from this district of Italy, and which are still garlanded with vines, in accordance with the practices of husbandry prevailing in the times of the poet Horace. Thickly scattered among the tall poplars, are short over-spreading trees bearing broad tri-lobed leaves not unlike those of the grape-vine, massed in a heavy crown. Amid this dense foliage, a man is often seen standing at the junction of the trunk and limbs of the tree, and carrying a large open bag, much like that of a postman and worn in the same way. In his right hand, he grasps a knife which he manages with short decisive strokes: at each one severing a number of leaves which, directed by his motion, fall into the open receptacle. The tree is a mulberry, and the leaves are destined to feed the silk-worms, of which there are extensive cultures in the vicinity and suburbs of Milan. The city proper also possesses a large artisan class employed in silk manufacture, and proud of its historic past; since these craftsmen, turbulent and revolutionary, according to the traditions of spinners and weavers, fought in the insurrections against the tyranny of Austria, when that power held Lombardy, at the middle of the nineteenth century, and thus made themselves a factor not without importance in the cause of Italian unity. The beauty of the Milanese manufactures in silk is too well known to warrant comment, but the color-note lent to the aspect of the city through the display of exquisitely tinted fabrics forms a distinctive mem-

ory in the mind of the traveler,—and one not unworthy to be associated with the great white cathedral and the Scala theatre.

In the history of the development of silk manufacture, France naturally follows closely upon Italy. As a consequence of the French expeditions into the peninsula, during the wars of the fifteenth century, white mulberry trees were extensively planted in the valley of the lower Rhone. The culture was afterward carried throughout France, the gardens of the Tuileries in Paris alone receiving from fifteen to twenty thousand plants. But it was under the administration of Colbert, the brilliant, far-seeing minister of Louis Fourteenth, that the silk manufacture, together with the other great industries of modern France, received the impetus which it has never yet lost. To-day, the trees producing the necessary food of the silk-worm are found mingled with olive groves, throughout the Southern provinces, and following the course of the Rhone as far northward as Lyons. Again, in this city—as famous in modern times for its beautiful, costly silk manufactures as were Venice and Florence in the Middle Ages—we find the spinners and weavers restless under authority, and even madly anarchistic. The traveler having mounted to the site of the Roman forum, and overlooking the panorama of the city with its two historic rivers and its picturesque quays, is turned by his guide toward a densely populated, squalid quarter, designated as “La Croix Rouge,” which is the breeding-place of plots against governments, sovereigns and capital. These lodgings and wine-shops harbored the “group” who sent forth the assassin of President Carnot, in 1894, and they to-day teem with the similars of Bresci and Czolgosz. Thus the craftsmen of Milan, of Lyons and of our own Patterson spin their fatal webs which reach over the Alps and across the Atlantic; mercilessly involving their victims, and indifferent to the peril that they may be caught in their own toils.

Passing from the history of the silk to that of the cotton industry, we find that the latter, as a great modern English and American enterprise, is best treated in connection with the rise of the Factory System. But a few points of antiquarian interest may be rapidly noted. This industry has always been characteristic of India, and the father of profane history, Herodotus, quaintly records that "the Indian trees bear fleeces as their fruit, surpassing those of the sheep in excellence and beauty." Tents or awnings of cotton, in the Augustan age, protected the Roman Forum from the rays of the sun, in order that the persons engaged in lawsuits might not suffer sun-stroke. In the Middle Ages, the beauty of Indian cotton fabrics excited the admiration of the Venetian and Portuguese navigators, and on the discovery of the New World, cotton was found to be the principal clothing material of the Mexicans. In India, the cotton manufacture is not confined to a few large towns or districts. It is universal, and the growth of the raw material is nearly as general as the production of food. Everywhere the women spend a portion of their time in spinning, and almost every village contains its weavers who supply the inhabitants with the scanty clothing required. Being a domestic manufacture conducted with the most primitive apparatus, it demands neither capital, mills, nor an assemblage of various crafts. But the methods employed are worthy of attention, as being triumphs of patience and skill. The yarn spun by the dextrous use of finger and thumb, imbibes, during this process, a degree of warm moisture which incorporates the separate threads more perfectly than can be done by any mechanical means. The fine finish and the durability thus assured have given rise to a popular belief in the superior merits of Indian cotton, which, however, being subjected to scientific examination, is proven the inferior of the best grades produced in the United States. So that all praise is due to the spinner who, in her own way, equals the manual

dexterity of the Hindoo weaver, whose acuteness of touch, flexibility of finger, and hereditary instinct (by caste-laws he is bound to the occupation of his ancestors) give him an unique place among his fellow craftsmen throughout the world. And this in spite of little or no aid from science, and in an almost barbarous condition of the mechanical arts.

In view of the beauty and the small cost of Indian cotton fabrics, a period occurred when the manufacturers of all European countries were fearful of ruin through competition. In the seventeenth century, the Dutch and English East India Companies imported these fabrics in large quantities; while the self-deceived patriots and pamphleteers of the day made their moan against the ruin of home industries. In the year 1678, a pamphlet was issued in England under the title: "The Ancient Trades Decayed and Repaired Again," in which the author bewailed the interference of the imported cottons with the home manufactures of woollens; recommending that a very high impost be placed upon the former articles. The same writer favored the prohibition of stage coaches, on the ground of the injury which they did to the hosts of the wayside inns, by conveying travelers too quickly to their places of destination, and at too slight expense to themselves. From these two instances may be gathered an estimate of the economic sentiment and knowledge of the period, which, after all, differ only in degree from many actually existing prejudices. At the period mentioned, even so sagacious and far-sighted an author as Daniel Defoe did not escape the general error that it was not merely injurious to the English woolen and silk industries, but also a *national evil* "to obtain clothing cheaply from abroad, rather than to manufacture it expensively at home." This opinion expressed in "The Weekly Review" edited by the author of Robinson Crusoe, compares very unfavorably with many opinions upon trade, credit and currency, which are contained in

the same periodical, and have a distinct flavor of modern economic thought. Furthermore, in extenuation of Defoe's illogical reasoning, it is but just to say that they reflected not only the popular sentiment, but also the governmental ideas of the time; since, in the year 1700, nearly a decade before the utterance quoted from "The Weekly Review," an act of William III. prohibited the introduction into England of Indian calicoes, muslins and silks for domestic use, either as apparel or as furniture, under a penalty of two hundred pounds sterling to be levied upon the wearer or the seller. As we know, the English woolen industries survived the perils occasioned through the influence of the East India Company. They sustained also the far more formidable competition of the home cotton manufactures, when it was gradually forced upon them toward the beginning of the nineteenth century. The making of fine muslin was attempted in both Lancashire and at Glasgow, about the year 1780, with weft spun upon the jenny; but the attempt failed, owing to the coarseness of the yarn employed. When, however, the mule was brought into general use, a few years later, both weft and warp were produced sufficiently fine for muslins. And so quickly did the weaver profit by the improved quality of the yarn, that no less than five hundred thousand pieces of muslin were manufactured in Great Britain in 1787.

Simultaneously with the rise of the English cotton industry, the Indian craft declined, until, in 1831, the manufacturers of Bengal presented a petition to His Majesty's Trade Council, in which document they set forth the ruin of the home industry and prayed for relief from the excessive imposts levied upon their fabrics in Great Britain; alleging the injustice of fixing customs duties upon the Indian fabrics, while the cotton cloth of English manufacture was admitted into their own province free of taxation. From this time, therefore, as a commercial enterprise, the Indian manufacture gradually failed. But as a fine-art craft and a village industry, it

can never cease to exist, as long as the Hindoo hand retains its cunning, the Indian trees "bear their fleeces," and each separate hamlet seeks to supply its own necessary articles of use and consumption.

There now remains to be mentioned but one other raw material: flax, which is largely employed in the crafts of spinning and weaving. Its use is most ancient, since it appears in the hieroglyphs, is found in the swathing-bands of the mummies, and furnished the substance of the textile from which were fashioned the garments of the priests of the great goddess Isis in Egypt. It best flourishes, as has been already mentioned, along water-courses and in low-lying lands: portions of Russia, the Netherlands, Northern and Southern France, and certain localities of England being especially adapted to its production. Its manufactured product, linen, constitutes an important branch of industry and trade in England and Ireland, which can be included in the notes upon the factory system now to follow.

This scheme of labor, although largely a growth of the eighteenth century, and a consequence of the application of machinery and steam power to industry, was not unknown in the ancient civilizations, where we find the factory under the disguise of the slave-shop. In the Middle Ages, the factory system may be said to have developed with the guilds, since it is recognized in the constitution of the workshop, with its master-craftsman, its journeymen and apprentices. But the first factory, in the modern sense, was one established for the production of silk fabrics, by Sir Thomas Lombe, in Derbyshire, in 1719.

Throughout the eighteenth century the system extended itself, through the localization of certain great industries; the separate processes of a given manufacture, which formerly had been conducted as domestic labor, being brought together and carried on in buildings adapted to the purpose. In these places of

torture were now gathered men, women and children, who worked the longest hours possible with the most meagre wages, and under the worst conditions of sanitation and morality. These were the days of absolute *laissez-faire*, when the free competition of individuals was carried to its limit. No factory laws existed and the condition of the employed depended solely upon the disposition and temper of the employer. The laborers of England were as wretched and hopeless as in the reign of Edward Third, and no Black Death came to lighten their misery by halving their numbers. They worked like animals, being, in truth, yoked to machines, and they were housed worse than their brothers of the stable and the sty. As time passed, women operatives replaced men, wherever such substitution was possible, and children women; such measures assuring a large increase of profits to the capitalists. Pens were established on the banks of canals, in which boys and girls were collected from the scattered cottages, country alms-houses and town streets. They were seized by force and whipped by the bargemen to the very doors of the merciless mills. Infants of five years were allowed to work in cotton factories, from five o'clock in the morning until eight at night, and children of eleven were confined throughout the working-day in bleacheries, in an atmosphere averaging one hundred twenty degrees. In addition to this severe labor which they accomplished under the most aggravating conditions, they often walked a distance of twenty miles a day, to and from the factory, and many records exist of children too young to be trusted alone, who were literally driven by their mothers, at the dead of night, to begin their hours of torture.

The rising industrial system so conducted, occasioned the most unhappy results for England. In the closing years of the eighteenth century, half the children born in the manufacturing centers died before arriving at maturity, and those whose tenure of life was

the strongest, were physically exhausted long before their entrance upon the real duties of life. There followed a notable decrease in the height of the adult population and indications of degeneracy caused the rejection of large numbers of recruits offering themselves for the army and navy. Indeed the condition of the working classes throughout Great Britain during the latter part of the eighteenth and the early years of the nineteenth century would be incredible, were it not well attested by the most reliable witnesses.

But in the economy of Providence an evil is not permitted to be lasting. The free competition of individuals was found to be most harmful in its results upon the people. The great questions arose: Has the Government the right of interference? Shall society suffer that individuals may profit? Shall the next and succeeding generations be weakened that private estates may be enlarged?

These momentous questions oppressing the public mind, were first agitated in Parliament by Sir Robert Peel, himself a master manufacturer, who had risen to wealth, power and station through the new system of labor. He was therefore fitted by an experience to understand the evils which he chose to combat and his Bill, presented in 1802, had for its object to interfere legally with the natural tendencies of unrestricted competition in the labor of human beings. It was entitled:

“An act for the preservation of the health and morals of apprentices and others employed in the cotton and other factories.”

This bill was the forerunner of later and more comprehensive Factory Acts, introduced in successive Parliaments by Sir Robert Peel and the followers of his initial step. From time to time, the working classes obtained new concessions and a larger freedom, until in 1878, the laws regulating the terms of their em-

ployment were thoroughly codified, the workman being thereby given the widest freedom and the employe restricted within the narrowest limits of personal power consistent with the spirit of the times.

To the name of Sir Robert Peel must be joined that of Robert Owen, the apostle of factory reform. He was like the great parliamentarian, a man skilled in economic and philanthropic questions. But his wisdom came from his first experience as a workman, rather than from that of his successful later life; for beginning as a child cotton-spinner, he rose, at the age of nineteen, to be the overseer of five hundred operatives. And although the manufacturer, his employer, was a man not unkind to his workman, yet the system so overpowered individual will and effort that the evils were almost intolerable. When the young Owen had made himself the ablest member of his craft in the Limited Kingdom and gained acknowledgment of his great administrative ability, he turned to remedy the abuses whose enormity he had learned to understand during his experience as a child laborer. He consecrated his mature powers and his Christ-like sympathy to rescue English children who had known no cradle but the hut or the cellar, and who, except for him, could have looked forward to no rest on the hither side of the grave. The spirit of Robert Owen walked abroad, stirring alike Parliament, economists, people, and, at last, mingling with the new English art. Millais and Holman Hunt of the Pre-Raphaelite Brotherhood, each condensed within the narrow limits of a canvas the story of the Divine Carpenter; giving it a modern significance which compelled attention, even though it excited the ridicule and scorn of the critics and London society. The earlier of the two pictures was that of Millais, who named his book: "Christ in the house of his parents," a title which was often changed into that of "The Carpenter's Shop." At the time of its first exhibition, a critic, in Charles Dickens' "Household Words,"

wrote of it a detailed description which is a grim commentary on the then attitude of London toward its poor. The critic condemns the picture as mean, odious, repulsive, revolting; as reminiscent of the gin-palace, the hospital and the East End. To-day, no journalist would dare so to express himself, for the claims of Whitechapel to consideration, pity and assistance are broadly recognized. And Millais, like Robert Owen, pleaded the cause of the child-laborer, when he showed the little Christ in the company of the older, distressed and besotted carpenters, with his hand sorely wounded by his tools, seeking aid from his parents. Another phase of the same subject was treated in the second picture: Holman Hunt's "Shadow of the Cross," in which the interior of the carpenter's shop is again displayed. This time, the innocent victim of society is represented as a mature man, with his foot treading a long serpent-like shaving which trails its length across the floor, and his arms stretched out in weariness, projecting the shadow of the Cross: that other name for the daily crucifixion of toil.

In our own day of science—social as well as physical—the rights of the workman to the free gifts of nature are recognized. Darkness, dirt, sewage and smoke are no longer regarded as the fit environment of the laborer, and the time of his liberation from the town of weary, sickly drudges, immersed in dust and germs is near at hand. Science, in the form of free sanitation, good food, pleasurable thought and recreation, is to lead him back to nature.

The factory system, with all its crying abuses, is now seen to have been a necessary step in social evolution. Indeed, it has been characterized by Mr. Carroll Wright, the United States Commissioner of Labor, as far in advance of any previous system of production.

The evils of the earlier days he believes to have been the results of labor which had be-

come pauperized in the agricultural districts and, in his opinion, the factory has not so much destroyed the home, as it has enabled the members of broken families to earn a livelihood. The cottage of the old-time industries—continues Mr. Wright—was not the ideal home pictured by poetry. History calls it a hut, and there the looms and the wheel disputed with the inmates for room. No surveillance of manners or morals was possible, and isolation tended toward the development of vice. The factory by giving regular employment to the unskilled and the ignorant, becomes an active power for the elevation of the race. It does not, as has been alleged, develop degeneracy in the skilled, but is rather an educative means for the untaught. It is easily the best scheme of labor which has been yet devised.

From this favorable view as contrasted with the darker aspect of the question but one deduction is possible. The present labor system, like all human expedients, is a mingling of good and evil. It is temporary to a degree, and in order to be made useful, it must be constantly subject to change, like life itself. It must accept the now waiting and transforming touch of science. Meanwhile the question what will be the next stage in the evolutionary series: Slave-shop, workshop, cottage, factory, is one that must stir the hearts of all men to whom "nothing that is human is foreign."

