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THE HUMAN RACE

James Samuelson

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THE HUMAN RACE

Its Past, Present and Probable Future

AN ESSAY

By

JAMES SAMUELSON, B.L

Author of "Roumania," "Bulgaria," "India (Past and Present)," "The History of Drink," and other Historical and Social Works

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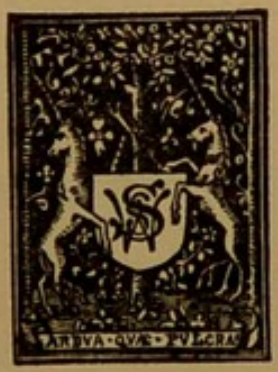

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To

HIS TRIED AND VALUED FRIEND,

SIR EDWARD RUSSELL, Kt.,

THE FOLLOWING PAGES

ARE RESPECTFULLY DEDICATED BY

THE AUTHOR.

Look backward, how much has been won.
Look round, how much is yet to win!
The watches of the night are done,
The watches of the day begin.

S. Longfellow.

Preface

THE aim of the following pages, which embody the results of the experiences and reflections of an octogenarian, is to outline briefly in the form of an Essay the changes which have taken place in the nature, beliefs, and activities of mankind from the earliest historical period down to the present day, and it is the author's hope that however imperfect and faulty the review may be, it will at least stimulate inquiry and serious study on the part of youths about entering life. With this object in view he has appended at the end of the treatise a short list of books suitable for the study of the whole subject. His views, and probably the facts on which he relies, are certain to be adversely criticized by some persons, but he trusts that from such criticisms the truth may be evolved.

Whilst he has no desire to depreciate or in any way to interfere with the labours

and duties of preachers whose profession it is to inculcate religion and morality (many of whom, of all religious creeds, he has reckoned amongst the closest and most highly valued of his friends), he cannot help seeing that there are thousands of persons of all ages who have outgrown the belief in much that is known as orthodox theology. Such persons attend places of public worship to learn something concerning their duties in this life, and the basis of faith in a life hereafter; but Sunday after Sunday they have dinned into them, often with clamorous reiteration, that only one thing is needful for their salvation and earthly welfare, that is an implicit faith in the doctrines of the particular denomination to which they, the preachers, belong. Those are usually supported by a string of texts from *Cruden's Concordance*, or by paraphrases of the theological doctrines on which their minds have been nourished. And when such preachers venture into the fields of Science, either in support of their doctrines, or as a warning to their hearers to avoid such dangerous topics, they often betray ignorance or confusion of ideas of which even a

tyro should be ashamed. There is, however, no want of confidence in the preachers themselves; we heard recently of a young B.D., fresh from his Sectarian College, who, with a few strokes of his theological pen, demolished Darwin, Wallace, and Huxley—and so helped on the controversy on "the decline of public worship."

With such rocks ahead the author has endeavoured, as far as possible, to avoid speculative hypotheses, and to adhere closely to facts in dealing with Man's rise from barbarism to comparative civilization, and for the convenience of treatment he has divided his Essay into three parts, the first bearing upon Man's origin and material progress; his vices and his virtues; the second on his mental, and the third his social, political, and religious advances, along with some chapters on his probable future here and, incidentally, hereafter.

The only matter in which the author feels justified in seeking the forbearance of his readers is the possibility of their finding here and there inaccuracies in chronology or minor details, as he has not had at his disposal the works of reference on which a

writer relies for their correction; but he trusts that the imperfections may not be such as to interfere seriously with the general accuracy of his statements and conclusions. He has to acknowledge, with gratitude, some little help that he has received from experts in certain branches of Science, and only refrains from mentioning their names lest they should be held responsible for any of his errors. It will be all the more gratifying if, notwithstanding these admissions, his little treatise should be received with leniency and favour.

LLANDRINDOD WELLS.

Table of Contents

PART I

PART I

I

THE PRESENCE OF GOD IN THE UNIVERSE

The Argument from Lay Authorities

Although we shall have occasion hereafter to consider certain phases of man's religious nature, this is not a theological treatise, and our readers will be relieved from the task of studying at any length the divergent views which have been held, and are still entertained, concerning the existence and attributes of the Deity and His relations with mankind. As, however, the facts on which the following observations are based are the immediate results of those relations—that is to say, as the growth and development of the human race have been directed by an invisible Providence—it may not be inappropriate to preface them in homely language with a few remarks concerning His presence in the Universe.

No doubt most of our readers are acquainted with the arguments by which Paley sought to establish the existence of the Deity. He concluded that where there are evidences of design there must also be a designer, and he illustrated his thesis by a comparison of the Universe with the mechanism of a watch of which the spring is the motive power. Assuming that one who is engaged in the examination of its various parts understands their uses, he argued that inasmuch as the observer sees in the watch evidences of man's designing power, no counter-arguments could possibly be urged to convince him that an intelligent mind had not been concerned in the construction of its mechanism. And as with the watch, so with the evidences of design in the Universe. Now Paley lived from a hundred to a hundred and fifty years since, when little was known of the operation of the physical and vital forces, and when those came to be better understood many honest inquirers considered the analogy of the watch irrelevant, believing that the powers of what are called the "secondary forces," light, heat, electricity, natural selection, etc., were inherent in matter and sufficed to explain all the phenomena of

the Universe, thus dispensing with the need of a designing Intelligence. Materialists and atheists seized upon the newly acquired advances in physical science, and maintained that as the argument from the mechanism of a watch proved nothing, they were as much entitled to their negative doctrines as orthodox theologians were to believe in what they called an imaginary deity.

But if the reader would be pleased to make a slight inversion of Paley's argument, we think he will see that although his illustration of the watch may have been imperfect and faulty, his axiom that where there are evidences of design there must inevitably be a designer is perfectly and logically accurate. Let us for a moment compare two well-known mechanisms, one the work of "Nature," the other of reasoning Man. Popularly speaking the human eye is a photographic camera. It receives and, for however short a time, retains, upon the retina (the counterpart of the sensitive plate in a camera), images of external objects. Those are conveyed through the nervous system to the brain, which, operated upon by the Will, deals with the impression it has received as that will directs.

It may cause the muscles of the body to act, again through the medium of the nervous system, or it may exert its powers in what is called a train of thought only. Up to a certain point the photographic camera acts in precisely the same way. Its prepared plate, the result of much human ingenuity, receives and retains the image, but there its power and function end. Even the image must be developed and made apparent by the hand of man, and it must be passed on to Nature's camera, the eye, before it can be apprehended by the artist himself. But, however limited the operations of the camera may be, the forces which have produced the image, by whatever designation they are known (light, actinism), it is the mind of man that has directed their operation by means of a specific invention which has been the result of much thought and labour, and which, as we have seen, has its counterpart in Nature. If the eye were as simple and imperfect an instrument as the camera we should still be forced to admit that an intelligent Being had been its designer; but, as a matter of fact, similar mechanisms are to be found throughout the animal kingdom, most

of which existed before the advent of man, and they are to be met with in varying degrees of complexity and perfection, many of them with powers of vision far exceeding those of the human eye, and all perfectly adapted to the habits and wants of their possessors.

Taking this one illustration only, it would be absurd and illogical to deny the existence of a designing Mind in the Universe ; but is this the only convincing proof of such an Intelligence ? Even in the animal kingdom there are innumerable examples to illustrate the same truth, where men have consciously or unconsciously designed and constructed mechanisms which are usually imperfect counterparts of Nature's productions.

Nor need we confine our inquiry to such mechanisms, for the very forms, attributes, and habits of many animals themselves, when examined by the most recently adopted biological theories, proclaim an intelligent authorship. Most of our readers no doubt understand what is meant by " protective resemblances." Certain insects when at rest so nearly resemble the surrounding objects as to elude the observation of the animals which prey upon them. Some look precisely

like decaying leaves from the marking on their wings, others are green as grass, and others again might be taken for fragments of brown twigs undistinguishable from the soil and rubbish on which they alight. Certain fishes are not discernible from the resemblances of their upper surface to the sandy bottom of the sea (the reader may observe this in any tank of an aquarium where a sole is at rest on the sandy floor), and some creatures cast their fur or feathers to follow the changes in their surroundings brought about by the seasons. In Nature this is done to preserve favoured species or varieties, and the process is significantly called "natural selection"; but what has man done in that sense? At one time he clothed his soldiers in scarlet or other bright colours, but finding that he thereby made them a conspicuous mark for rifle bullets he changed their dress to "Khaki" brown or other sombre hues more in keeping with the colours of surrounding objects. And thus, probably quite unconsciously, he imitated clumsily the more effective methods which "Nature" had adopted ages before his appearance on the earth.

So far we have endeavoured to show by

the selection of a few indisputable facts, which we have considered by the light of common sense and reason, that where there are evidences of design and purpose in the natural world, there must be an intelligent Designer; but it must be added that this view has been held by nearly every leading investigator and profound thinker in the world of Science. Here and there a rare exception may be found in some observer of the heavenly bodies who, to quote the reported saying of the eminent French astronomer Laplace, "Sees no need of such a hypothesis." Such a man finds the Universe to be a perfect and, like Paley's watch, an apparently self-acting mechanism. But no one who has studied life can accept such a doctrine; and all intelligent investigators are agreed that by whatever title he may be designated, the existence of a Deity is indispensable for a comprehension of the phenomena of Nature.

Sir Roderick Murchison, one of our most eminent geologists wrote: "I therefore cannot but believe that he who, looking at the earliest visible signs of life, traces thenceforward a rise in the scale of beings until Man appeared on earth, must acknowledge in those succes-

sive works continuous manifestations of the design of a Creator." [1]

Mr. Charles Lyell, another eminent geologist, says: "But in whatever direction we pursue our researches, whether in time or space, we discover everywhere the clear proofs of a creative Intelligence, and of His foresight, wisdom and power." [2]

Returning for a moment to the views of astronomers, Kepler, on making a remarkable discovery, exclaimed: "Oh! God, I think thy thoughts after Thee"; he read the power of God behind His works.[3]

Grove, the physicist, says: "Causation is the Will, Creation the Act of God." [4]

Sir John Herschel calls the Sun "the almoner of the Almighty." [5]

Professor Huxley, the biologist, who is often branded by ignorant or bigoted theologians an atheist, whilst he admits that the human body, like all living bodies, is a machine,

[1] *Siluria*, p. 506, fourth Edition, Murray.
[2] *Principles of Geology*, tenth Edition, p. 616. Murray.
[3] *The Place of Immortality in Religious Belief.* J. E. Carpenter. London: P. Green, Strand.
[4] *Correlation and Continuity*, fifth Edition, p. 271
[5] *Essays on Scientific Subjects*, p. 62. Strahan.

all the operations of which will sooner or later be explained on physical principles, says: "When the materialists stray beyond the borders of their path and begin to talk about there being nothing else but matter, force, and necessary laws, I decline to follow them"; [1] and he considers the various forms of living beings as "fabrics built upon a certain plan."

Schleiden, one of the most eminent German botanists, in speaking of the æsthetics of plant life, says that, "the naturalist knows and understands no other development but the progression from the simpler to the more complex, from the imperfect to the perfect." [2]

And finally Darwin, one of the greatest, if not the greatest, biologist and zoologist the world has ever known, said, in his immortal work, *The Origin of Species*, [3] that "natural selection is daily and hourly scrutinizing throughout the world every variation, even the slightest, rejecting that which is bad, preserving and adding up all that is good, silently and insensibly working, whenever and

[1] *Lay Sermons*, pp. 372–3. Macmillan.

[2] *Die Pflanze und ihr Leben*, p. 338. Leipzig: Engelmann, 1855.

[3] P. 95.

wherever opportunity offers, at the improvement of each organic being in relation to its organic and inorganic conditions of life." And that he does not regard "natural selection" as other than a divine agency is shown by the concluding sentences of his great work, where he says that God has been the means of developing the highest animal creations from one or more simple beginnings, and that His work is "truer than man's productions" and "bears the stamp of far higher workmanship."

This last is the view of the existence and operations of Providence which we have endeavoured to impress upon our readers, and now we may proceed to consider their influence as it has been made manifest in the rise and progress of the human race.

II

MAN'S ORIGIN AND MATERIAL PROGRESS (I)

His Descent—Early Civilization—Weapons—Agriculture, etc.

Believers in evolution hold that man is a modification of some lower animal by "natural selection," and although the "missing link," as it is popularly called, between the higher apes and the lowest known human type has not yet been discovered there are data which make that method of accounting for Man's origin the most probable of any that have been propounded. Amongst many others one such fact is the anatomical resemblance of man to the highest apes. Many years since Richard Owen believed that he had discovered a specific difference between the structure of their brains, and for a long time he adhered to his opinion, but eventually he had to yield to the more careful investigations of Huxley, who showed that in all

essential particulars the two brains are identical. Another has been the discovery of skulls or of isolated fossil bones or fragments of the skeletons of men which distinctly appertain to a lower type than any known to exist at the present time. And a third is the close resemblance of what are considered human attributes and habits in the higher apes, to those of mankind.

But although it would be both interesting and useful to us in our inquiries if we were able to state with certainty that man has sprung from the higher apes either directly or through some intermediate form, it would not be scientifically correct to do so, and we must be content to begin where we possess incontrovertible evidences of his first appearance as a reasoning Being, and even then we must speak with a reservation, for we have to guard ourselves against the assumption that none of his humbler companions on earth are endowed with reasoning faculties. The old line of demarcation between "instinct" and reason has long disappeared through careful observations, and indeed the fact that some of the higher animals are capable of reasoning, in however primitive a

fashion, affords additional evidence of man's descent by evolution from a lower type.

A German writer, Wilhelm Boelsche, has said that the conflict of man with the lower animals has passed away unsung and uncelebrated, and that "the civilized man of to-day has hardly a recollection of the endless lapse of time during which mankind had to struggle with the beasts of the earth for mastery." Those sayings are undoubtedly true in a poetical or historic sense, and it would be very interesting if we were in possession of some authentic traditions of the habits and exploits of those naked or skin-clad men and women of pre-historic ages; not only because they would probably help in the solution of man's origin, but because they could be compared with the savage races which are still engaged in their life struggle with surrounding nature. According to the trustworthy accounts of many travellers, authenticated in recent days by photographic illustrations, there are still to be found in Africa naked men who hunt the wild elephant and all the beasts of prey with bows and arrows and clubs as successfully, although perhaps not so expeditiously and unerringly,

as the rifle-armed sportsman in pursuit of "big game."

But if we have no traditional accounts of pre-historic man we have far more trustworthy relics to guide us in forming an impression of his habits; for there is hardly a museum in the old or new world which does not contain many and varied examples of his handiwork. Of those the most important are the rude weapons with which he made war upon the animal races or defended himself from their attacks; and more than probably also made war upon his neighbours. The degrees of civilization of the race have been registered, so to speak, by the form and fashion of those implements and the materials of which they were made. The earlier were of chipped flint (some even of bone), simple cutting and piercing stones; others were provided with a hole for the insertion of a handle. Later examples show care in the finish, axe-heads of polished diorite, and then we find them of bronze or iron, both denoting an acquaintance with the metallurgical art. But that was not the only art of which we find illustrations, for some of the makers of those rude instruments may be said to have been the pre-

cursors of our great animal painters, Paul Potter, Edwin Landseer, and Ansdell, for they managed somehow to engrave with faithful delineations creatures still living in our time and some which have been long extinct. We are told that "one of the oldest nature documents from the hand of man is a prehistoric sketch of a mammoth on a fragment of ivory.[1] Whether it is a mammoth or an elephant not extinct in more recent times we are not prepared to say, but it represents the forepart of that animal showing the head, eyes, tusks, trunk and forelegs. Other examples of such early art are to be found engraved on the bones of slaughtered animals, often on the shoulder blade of a reindeer. But what is deeply interesting for us to know is that there are at the present time low types of mankind who practise the same rude art in the identical way. No doubt many of our readers will have made the popular pleasure trip to the coasts and fiords of Norway, and are aware that the so-called Summer-Lapps bring down their herds of reindeer to graze

[1] Reinhardt, *Der Mensch, zur Eiszeit in Europa*, described and illustrated in Schilling's *Wildest Africa*, vol. i., p. 88.

in the neighbourhood of Tromsö where the steamer makes halt. Some years since the author joined a party of such tourists which included a Danish professor, to visit the Lapps in their camp. The professor informed the party that the Lapps still carve rude figures on the bones of the deer which are slaughtered for food, and one of the men was induced to give an example of his skill. With a common penknife which was lent to him he proceeded to engrave rapidly on the shoulder blade of one of the animals that had been killed the figure of a reindeer with such particularity as to cause some embarrassment to the ladies of the party who were onlookers. If that bone had been kept until it showed signs of age it might have taken its place beside many an object similarly engraved, as a production of the pre-historic age exhibited in some museum of antiquities.

What a stride in human art and intelligence from such a scratched outline to the life-like portraiture of a Landseer ! and yet who will deny that it is only a question of degrees of perfection between the two classes of artists and simply a development of the imitative faculty which is possessed not only by reason-

ing man but in a lower degree by some of the higher animal tribes.

We have seen that the objects for which flint axes, and it may be added arrow-heads, were constructed by primitive Man was to protect himself against animals of prey, and to obtain food; but we find that as his wants increased and his desires multiplied, his weapons of destruction became more complex and were used for certain distinct purposes. The sword, the shield, the battering ram, the armed chariot superseded the primitive flint axe, and those were employed by men of a more advanced stage of civilization to conquer and subdue the savage races of men, to obtain land for agricultural, pastoral, or residential purposes, or to procure slaves and portable wealth from weaker neighbours. Sometimes the aim was simply to secure permanent ascendancy over neighbouring tribes or nations, or even to carry on war for the mere gratification of combativeness or the humiliation of what were regarded as enemies. But the most pronounced aim for which war has been cruelly waged between nations has been for the promulgation of some particular religious

faith or doctrine. As, however, we propose to consider the invention and uses of warlike weapons hereafter, we must for the present content ourselves with these general remarks, and we will now inquire what evidences of primitive civilization are to be found in other devices which have been applied in the promotion of the arts of peace and social intercourse.

There have been various surmises or speculations as to the origin of the wheel. The author once heard Mr. Gladstone suggest at a public meeting that the idea might have been conceived by primitive man through watching the circling flight of the eagle, and many other equally fanciful speculations have been broached as to its inception. But the most plausible explanation has been that some "pre-historic" man, finding that the difficulty of moving a heavy object was diminished by using the trunk of a tree as a roller, conceived the idea of such a permanent aid to locomotion.[1] It is believed by some that this was the plan adopted to move the

[1] Professor Cyril Burt of Liverpool University thinks that the use of the tree as a roller was the result of his finding it easier to roll the tree itself than to drag it.

enormous sacrificial stones which went to form the early temples or burying places, of which remains are to be found in various countries. Such a primitive mode of conveying heavy objects from place to place may even have been suggested by the observation of the habits of some form lower than man. Be that as it may, some of the wheels still to be met with are but a slight advance upon the supposed original, and many of our readers who have travelled abroad must have seen spokeless wheels resembling the trimmed section of a tree-trunk with a hole bored for the axle. An ordinary wheel-barrow is furnished with such an appendage, and it is reasonable to believe that from these primitive devices the spoked wheel has probably been evolved.

Now we come to what is probably the most important of all agricultural implements—the plough. Ploughs are to be found in use to-day of such primitive construction that it would be difficult to conceive of a simpler appliance for turning up the soil. In some parts of India, for example, there is one which consists of two wooden beams, a straight one notched to affix a cross-shaft for the oxen by

which it is drawn, and into that a smaller curved beam which carries a primitive wooden share with a curved vertical blade. In Roumania its counterpart may be found, the only difference being that the blade resembles the broad flattened lance-head of a harpoon which penetrates the surface of the soil horizontally, in both cases to the depth only of a few inches. Such ploughs, drawn by oxen, are mentioned more than once in the Scriptures,[1] and in one case accompanied by the injunction that swords shall be beaten into ploughshares and that "nation shall not lift up sword against nation, neither shall they learn war any more."[2] But of that survival of barbarism we shall speak more fully hereafter. In some of the Indian ploughs a further extremely simple contrivance marks a distinct forward step in agriculture. The earliest mode of planting wheat was no doubt by sowing broadcast, but this is the simplest form of drill which can be conceived. A piece of bamboo cane, headed by a broader piece or cylindrical bowl, is attached vertically to the plough itself, and the seed being put

[1] Or with an ox and ass together (Deuteronomy xxii. 10).

[2] Isaiah ii. 4.

into the larger vessel is allowed to trickle into the furrow as it proceeds.[1] With the exception of the steam plough, which is, however, still little used, most of those of to-day are but slight modifications of the earliest examples; and as with the plough so with the other agricultural implements. The flail has developed into the thrashing machine, the sickle and scythe into the perfected reapers and mowers, with their contrivances for binding the sheaves; indeed every agricultural implement of to-day records stages of man's progress from barbarism to comparative civilization.

With the preparation of food it is the same. Whilst we find in many civilized countries the most complicated machinery for grinding corn, and for separating and utilizing the offal, there are still to be met with amongst less advanced peoples the primitive mill which "no man shall take to pledge," the quern, worked by hand, and even the hollowed stone in which the grain is reduced by the application of an upper

[1] Compare the illustrations in *India, Past and Present*, p. 178, and *Roumania, Past and Present*, p. 75, both by the author.

stone shaped accordingly. Indeed, to trace the progress of man step by step in the domestic arts would occupy volumes, but as we shall be able to touch upon them again when we come to treat of his inventive faculties as applied to locomotion, etc., these homely illustrations must serve to indicate his upward progress from his entrance on the stage of humanity to his condition in our own day.

It has been erroneously said that it would not be possible to find any qualities of man, either mental or physical, which completely distinguishes him from the animal races, but it must be admitted that no known animal has ever shaped weapons of stone or metal, nor sowed, reaped or ground and prepared grain for food. So here at least we have attributes which constitute a distinct advance from the lower animals to mankind.

III

MAN'S MATERIAL PROGRESS (II)

LAND HUNGER—MINING—JEWELLERY—DWELLINGS—VEHICLES

EARTH-HUNGER has ever been one of the chief social cravings of mankind; indeed to follow it through all its phases would be to write the history of our race. From the conquests of Alexander, who is said to have wept because there were no more worlds to subdue, to the armed colonist who drives the aborigines before him and takes possession of their hunting grounds; from Ahab and his precious wife, Jezebel, who killed Naboth in order to obtain possession of his vineyard, to the land-grabbing property-owner who ruins his neighbour, and probably also himself, with litigation in the attempt to push forward his boundary a few yards into that neighbour's patrimony, all are examples of the land-hunger which so often assumes iniquitous and unlawful aspects. And yet

the desire to colonize and fertilize the desert, or to overrun the neglected territories of barbarous races and bring them within the borders of civilization, is not only legitimate and praiseworthy (if no milder measures can attain so desirable an end), but it has been the most important factor in man's progress. For the present, however, we must turn our thoughts into a germane channel, and consider the influence which has been exercised on his career by his discovery of mineral wealth, and the efforts he has made to secure its possession. The earth's surface is open to all eyes, and its acquisition and possession needs no knowledge of occult nature; but to penetrate beneath the surface in order to procure and utilize its valuable treasures necessitates a higher intelligence and denotes a more refined taste, and the appreciation of the beautiful as well as of the useful and commonplace.

We find the metals to have been in use in the earliest times. Iron arrow-heads are found associated with the most primitive types of mankind, whilst Homer speaks of brass and gold as if they had been known for ages. The discoveries recently made in ex-

cavations in Crete point to even much earlier dates than Homer or the reputed date of the foundation of Rome. And when we study the books of the Old Testament we read of mining operations which carry us back to the fabled Garden of Eden, for we hear that "in the land of Havilah," near the garden "there was gold,"[1] whilst Abraham "was rich in silver and gold."[2] Job, probably about 1600 B.C., tells more distinctly of the recovery of such treasures from the bowels of the earth. "Surely," he says,[3] "there is a mine for silver and a place for gold which they refine. Iron is taken out of the earth and brass is molten of stone" . . . "and as for the earth, out of it cometh bread, and underneath it is turned up as it were by fire; the stones thereof are places of sapphires and it hath dust of gold."

Diamonds were not only used for ornaments, but its hardness was already appreciated, for "the sin of Judah is written with a pen of iron and with the point of a diamond; it is engraven on their heart."[4] Mention is to be met with in the various books of almost

[1] Genesis ii. 11.
[2] Genesis xiii. 2.
[3] xxviii. i. *et seq.*
[4] Jeremiah xvii. i.

every other precious stone known in our day: ruby, carbuncle, topaz, emerald, onyx, beryl, corals, pearls, jacinth, jasper, etc.

Gold and silver were early utilized for innumerable purposes, military, domestic, or merely ornamental; gold for images, in altars and bells (?), as well as for the decoration of buildings; for spoons, cups, and other domestic vessels; and in war to adorn shields, chariots and offensive weapons. The metals were probably brought from Phenicia, Egypt, Babylonia, etc. Jehoshaphat "made ships to go for gold," [1] and "Hiram, King of Tyre, furnished Solomon with gold for the decoration of the temple."[2]

That gold and the other precious metals are still the objects of men's longing goes without saying, and the desire to possess the first named is intensified by its being (with silver) the current coin of most civilized states, and therefore the medium for securing every kind of wealth, comfort and luxury. As for gems, for which fabulous sums are in our day expended by the rich, they still lend a glamour to war by their use for orders and medals,

[1] 1 Kings xxii. 48. [2] *Ibid.* ix. 11.

and they are believed to add to the dignity of rulers and nobles by their insertion in crowns, coronets, and other insignia of rank. If, however, they are regarded in that light alone, it is well for their wearers to remember that they are only recent slight modifications of the adornments of barbarous ages and races of men, but the reason we have drawn attention to them is because they testify to the love of man, and perhaps more so of woman, for the beautiful; and what is of far greater importance, because they have served as a lure to induce mankind to explore the earth's crust in search of coal and other minerals for use in the industrial arts; whilst incidentally they have led to the discovery of strata and of fossil remains which are making him acquainted with novel and interesting chapters in the story of creation. This is an important phase of his material and mental progress.

Perhaps the most striking evidences of the great strides which have been made by man in civilization are to be met with in the growth and improvement of his habitations. From the rock-caves, the possession of which he

had probably to contest with the feræ, to Windsor Castle and Chatsworth with their varied comforts, refinements and art treasures; from the "lake-dwellings" supported on piles and overhanging a lake, man's first port, to Chicago on Lake Michigan, or Liverpool with its miles of docks and forest of masts; what contrasts between barbarism and civilization! Or to take the erections in which man has worshipped his various gods (One nearly always supreme) or has buried his heroes: compare the cromlechs of the Channel Islands and Stonehenge with the lovely white marble Taj at Agra, the cathedral (also of marble) of Milan, the magnificent religious edifices of Cologne, Rome and a hundred other cities! What a picture they present of the rise and progress of the race. But there are other features of a mixed kind. From the collection of tents in the desert, or in a fertile landscape, to the modern city is a great advance, but nearly every step in civic development has been marked by traces of war and destruction. When primitive fortification first began it is difficult to say, but the most beautiful of cities, Paris, represents one of man's latest efforts, which

have been vain in nearly every instance, to protect his cities and towns against external foes or to suppress civil insurrection. To particularize the various intermediate stages between all these extremes would occupy too much of our space, and the reader so inclined may easily follow them in his mind without the pains of reference to history; suffice it to say that with whatever object his erections have been framed they have grown from the most primitive shelters into structures of infinite grace and beauty.

It is only in recent times that vehicular traffic has assumed great prominence. Reference was made in the last chapter to the invention of the wheel, but for a long time the horse, the mule, the ass and the camel, and later on the elephant, served to convey men from place to place, or to carry them into the field of battle against their enemies. Confining ourselves to the Scriptures which are easy of access to students, we find that "Abraham saddled his ass"; [1] and if we cannot quite accept the story in its entirety, we may

[1] Genesis xxii. 3.

take it for granted that on a certain interesting occasion Balaam was riding upon one of those intelligent creatures,[1] nor need we doubt Samson's narrative that he did execution with the jawbone of an ass, although its extent may raise a doubt in inquiring minds. Horses, dromedaries and mules were not only employed for ordinary travel but also for the conveyance of mails: "And he wrote in the name of King Ahasuerus and sealed it with the King's ring and sent letters by post on horseback, riding on swift steeds, mules and young dromedaries."[2] In the earliest times we read of the chariot, the forerunner of most of our wheeled vehicles. Sometimes it was merely used as a peaceful conveyance, but at others it had weapons attached to the hub of its wheels or elsewhere, and was employed to cut down opposing armies. The cart also, to which oxen or kine were attached by ropes, is early mentioned, and from such simple contrivances to the express train with its luxurious hotel accommodation for hundreds of passengers is almost as complete a transition as that from

[1] Numbers xvi. 22 *et seq.*

[2] Esther vii. 10 and margin. Revised version.

the cave dwelling to the palace; whilst finally the aeroplane (which can, however, hardly be called a terrestrial vehicle) threatens to leave all such modes of locomotion behind, and in its turn some day to rival the railway train in its passenger accommodation, and the swallow in its flight—a prediction which we are prepared to hear ridiculed by those who have not followed the development of locomotion. And as on land, so on the waters. The first vessel was probably the hollowed trunk of a tree, such as is still to be met with amongst uncivilized islanders; the latest a *Mauretania*, a *Majestic*, or a *Kaiserin Augusta Victoria*. The first was propelled by naked savages in comparatively still waters, the latter conquered the billows of the ocean, and each represents a good-sized town, with its thousands of inhabitants of various ranks, classes and professions. It is furnished with every modern invention for light, comfort, commissariat, entertainment, and last but not least speed. It conveys merchandise, letters and money from the nations of one hemisphere to those of another; and without sound, announces aerially its intended arrival at its port of destination whilst still at a

distance which even in recent times would have occupied a day's voyage.

Here, again, we must leave the student to explore for himself the pages of this interesting chapter in human history; to follow its stages from the rowing boat to the sailing vessel and from the sailing ship to the steamer, of which, however, we shall speak hereafter, marking step by step man's conquest of the seas, and binding in ever tightening bonds land with land and nation with nation.

IV

MAN'S MATERIAL PROGRESS (III)

Wealth—Slavery

When we consider further the influence of various forms of wealth we strike another line in the development of man's nature. Very early in the history of our race we find cattle to be the most highly prized possession, especially amongst certain eastern peoples. The Aryans of India constantly petitioned their god Indra for cows. "Thou art the giver of cows, the giver of corn, the strong lord of wealth," we read in the Veda. His worshippers invite him to drink the soma, the sacred wine, with them, and when he becomes elevated he says: "I have quaffed the soma; I have truly resolved to give cows and horses." Even down to this day the cow is worshipped in India, and wine enters into the divine services of a considerable portion of the human race.

Amongst the ancient Hebrews, Abraham "was very rich in cattle, silver and gold," [1] and Joseph took cattle in exchange for bread. Indeed, that cattle were early a medium of barter is seen from the fact that our word "pecuniary" (relating to money) is derived from the Latin word *pecus*, cattle. In some eastern countries the camel was the staple property; in others horses: in fact each nation has measured its wealth by the objects most needed for its lives and customs. In Scandinavia arms and war vessels constituted the most valuable possessions; the Arabs and some of the wandering tribes of Central Asia their mares (even to this day), whilst until recently almost every nation has reckoned slaves as a valuable asset.

One of the earliest authentic traditions of slavery again is connected with the Conquest of India by the Aryan races, and although there may have been earlier examples, we will select this one for an obvious purpose. The Aryans are stated to have conquered and enslaved the "Dasyus," probably the Aborigines of the country into which they penetrated from the north. According to the

[1] Genesis xiii. 2.

accounts of the conquerors, those "Dasyus" must have been removed only one degree above the "missing link." They were a black race, with short arms and legs, a projecting chin, broad, flat nose and red eyes. They were eaters of raw flesh, worshipped no God, but perhaps demons, and could hardly be said to possess any moral attributes. They have been compared to the Andaman islanders of to-day, and the reader will have noticed that some of their features survive in low types of modern negroes. Much of this account must be taken with reservation, but what is certain is that they were a savage race raised just one step above the "lower form than man" fighting with nature for subsistence and dominion like the prehistoric inhabitants of the world, and in turn becoming the slaves of a higher conquering race.

The ancient Hebrews had two kinds of slaves. They were called bondsmen and bondswomen; and one class was bought and sold like any other kind of property. "Of the nations that are round about you, of them shall ye buy bondsmen and bondsmaids . . . and they shall be your possession, and ye shall make them an

inheritance for your children after you." [1] This was precisely the condition of the slaves in the United States before the Civil War. The Hebrews had also another kind of slaves, debtors, who were sold, or even sold themselves to their creditors into temporary slavery. Of course the heathen nations had slaves who in later times revolted and became a danger to the State as the servile races have always become; and it may be said that until recently almost every civilized race in both hemispheres has reckoned its slaves as valuable chattels, to be bought, sold and inherited. In our own country that was the case until about a century ago. In 1792 a bill for the abolition of the slave trade passed the House of Commons, and (*sic!*) was thrown out by the Lords, and it was not until after a struggle of fourteen years' duration that Wilberforce and Clarkson, whose memory is imperishable, succeeded in finally securing the abolition of the iniquitous traffic. About a quarter of a century afterwards (1833) slavery was abolished in our Colonies; about thirty years

[1] Leviticus xxv. 44 and elsewhere.

later in the United States, and amongst existing races the Portuguese and Mohammedans have still the discredit of upholding the trade in human beings. It remains to be seen what the Ottoman Empire will do under its newly acquired constitution.

We have dwelt briefly, it is true, on the institution of slavery in order to draw attention to the contrast between its earliest examples and the cultivated modern "gentleman of colour," and to show that even the members of what is still regarded by some an inferior race, are as capable of being educated in the arts and liberal professions as many who consider themselves their superiors; perhaps, however, they have not risen so rapidly, owing to their having been held for ages in bondage. And we have thus been able to present to our readers a most striking illustration of the rise of one section of the human race from the lowest depths of barbarism to a comparatively high degree of civilization.

The effects of wealth in its varied forms on the character and destiny of man will be made manifest when we come further to examine his material and mental condition

in our day, and then we shall have frequent occasion to consider also the influence of the noble rich in promoting his present and future well-being.

V

MAN'S VICES (I)

Drunkenness throughout History

Excessive indulgence in intoxicating drinks has been one of the most widespread vices of mankind; indeed it has been said that in this respect he ranks even lower than the animal races from which he is believed to have descended, that they have never shown any instinctive desire for alcohol; but if it were so it would only be because they were ignorant of the effect of fermentation. It is, however, not the case, for some of the higher animals have the same acquired taste (for such it is) as mankind, as numerous examples could testify. We are told that the natives of North-East Africa used to catch the wild baboons by exposing vessels with strong drink (no doubt palm beer), by which they were made drunk, and that when they were sobered they were cross and dismal and held their aching heads with both hands. How

human! When, however, beer or wine was afterwards offered to them they turned away with disgust[1]; and Charles Darwin tells the same of an American monkey (*Ateles*) which, after getting drunk on brandy, was wiser than many men and would never touch it again. That men should early have learned to indulge in such seductive beverages is not to be wondered at, for if any juice of fruits, or any liquid containing sugar, stands a few hours at a temperature of 70 degrees it begins to ferment, and an intoxicating liquor is the result.[2]

At what period intoxicating liquors were first used, we are unable to say, but the materials from which they were produced were known in prehistoric times, for grape stones, barley, etc., have been found in the lake-dwellings already referred to, when men lived contemporaneously with the urus, the wild progenitor of our domestic cattle; and as those lake-dwellers were already cognisant of some of the arts of civilization, it is not

[1] Brehm, *Thierleben*, 1864.

[2] This and other facts referred to in this chapter are taken from the Author's work, *The History of Drink*. Trubner, 1880.

improbable that they were acquainted with the use of intoxicants. This is, however, conjecture, but we know from the traditions and records of nearly every branch of the human family that even in the earliest ages drunkenness was rife and was condemned by moral and religious teachers, although, as we have already shown, the use of intoxicating beverages actually formed part of their religious ceremonies, and the gods themselves were believed to indulge freely in such stimulants.

That this was so amongst the Chinese, who claim to be the oldest of the human races, is unquestionable. Confucius, although he was not a total abstainer, "never indulged so far as to disturb his understanding," and to his disciples he said: "Be not given to excess in the use of wine." His follower, Mencius, makes frequent reference to the evils of drunkenness.[1] He speaks of the excessive use of wine in the sacrifices, and we find from the "Kings" or books of poetry which were edited by those two teachers that there was widespread drunkenness long

[1] *Confucius et Mencius*, par M. C. Pauthier. Paris: Charpentier.

before their time. In this connexion an edict was promulgated which contained warnings against the excessive use of intoxicating drinks. The ruler who issued it said, "Our people have been greatly disorganized and have lost their virtue, which can be traced to their indulgence in spirits" (probably made from rice); "yea, the ruin of states, great and small," is attributed to the same cause.[1] The same edict threatens death to "companies who drink together," but regards more leniently the same excesses in "ministers and officers"!

The odes of the time are full of poetic references to intoxicating drinks; from paddy (rice)—

> They make spirits' gainst the spring,
> Which to the bushy eyebrows comfort bring.

And that their revels were protracted is clear, for—

> Far into night we feasting sit,
> We drink and none his place may quit.

or, again—

> Your noisy feasts and revels you prolong
> And day through you is black as night.

and finally—

[1] Legge's *She King*, or book of ancient Chinese poetry, Trubner, from which the following are also extracts.

They dance about, now fast now slow,
Can hardly keep their feet;
What fools they are they do not know,
No one resumes his seat.

This is the picture of drunkenness and its effects which crop up in the records of nearly every nationality, past and present. In modern China the vice is not so prevalent as of yore, though there are still "companies who drink together," but then opium has taken the place of spirits. Opium smokers have been seen "in all stages of intoxication, but no drunken brawls, no bruised and bleeding wives."[1] Short of that, however, there seems to be little to choose between the two forms of vice, which are both debilitating to mind and body, and both lead to ultimate ruin.

The Aryan worshipper of ancient India prayed to his god Varu*n*a (another name for Indra) for forgiveness of his sins because he was drunk when he committed them—a practice not confined to ancient times. "It was not our doing, O Varu*n*a, it was temptation, an intoxicating draught." Many of the

[1] *Chinese Sketches*, Giles, H.B.M. Consular Service. Trubner.

sacred books of the East teem with such passages. To-day in India there is still some drunkenness, which has certainly not been diminished by the sale of spirits being made a means of revenue by the Government, but the people are as a rule sober, and the temperance organizations established there by the late Mr. W. S. Caine, M.P., will, it is to be hoped, check the indulgence in intoxicating drinks. It is no exaggeration to say, although the statement may not be palatable, in certain quarters, that "pegs," as the whisky and sodas are called, are chiefly consumed by our own countrymen, who in that respect set a bad example to the conquered race.

The ancient Persians were forbidden by Zoroaster the use of drink to excess, although there, too, it was used in the sacrifices, and their descendants, the Parsees, are decidedly a sober people. So, too, in principle at least are the Mussulmans, although amongst the higher classes drunkenness prevails to some extent. The use of wine was forbidden by the prophet; indeed, to find excessive indulgence in intoxicants we must travel westward, and there we shall find much food for reflection.

That war and drinking were the favourite pursuits of the ancient Scandinavians is well known to all readers of history, and the same remark applies to the tribes of Germany. Tacitus informs us that the latter were intemperate; that they went armed to their drinking parties in which it was no disgrace to pass whole days and nights without intermission, and that violence and bloodshed frequently resulted.[1] At first they drank a liquor prepared from barley, but when Christianity was introduced the monks planted vineyards and used wine in the sacraments, with the usual result that it became a popular drink and fostered drunkenness in those who were able to procure it. Frequent attempts were made through penal laws to suppress the vice, notably by the Emperor Charlemagne, Frederick III, and Karl IV, but all to little purpose. The last-named ruler declared in one of his edicts that the vice was greatly on the increase and that it led to blasphemy, manslaughter and murder. The accounts of drinking in mediæval Germany, both by men and women

[1] Bohn's *Tacitus*, vol. ii., p. 312, *et seq.*

and even children, are sorry reading. Parents taught their children to drink and boasted of their accomplishment, just as the writer once heard of an Irish toper who over his glass gloried in the attainments of his boy who already "had a noble thirst upon him." In Germany there was a regular drinking-code (*Zechrecht*) by which it was sought to maintain some kind of decency in convivial parties.[1] But this had no effect in arresting the drinking habits of the people which were encouraged by the cheapness of wine, for—

> In fifteen hundred and thirty-nine
> The casks were valued at more than the wine.

Since that period, however, the habits of the Germans and some other nations have greatly improved, and the former may now be considered one of the soberest nations in Europe.

But what shall we say of our own country? All that has been told of intemperance in other lands has applied to one or other of the three kingdoms. Until recently drinking, and as a consequence inebriety, entered into every phase of social life, from christenings to funerals. During the reigns of the Stuarts

[1] *Jus Potandi*, Heilbronn Gebr, Henninger.

the standard of morality was so low that ladies of rank thought nothing of being drunk in Society; and at an entertainment given by the Earl of Salisbury in the time of James I, in honour of the visit of King Christian of Denmark, a Court lady, in presenting some gifts to the King, was so drunk that she "overset her caskets into his Majesty's lap and fell at his feet." A further description of the function shows that she was not alone in her inebriation, and although this may be a somewhat exaggerated narrative it gives a fair idea of the drunkenness prevailing in high life. Coming down to the eighteenth century we find that high and low, rich and poor, were alike addicted to drink, and for the benefit of all persons of limited means announcements were hung out before the gin-shops, informing passers-by that they could get drunk for a penny and dead-drunk for twopence, and that when they were in the desired state of inebriety clean straw would be gratuitously provided for them in convenient cellars.

Through the exertions of the temperance societies, the provision of rational means of entertainment, and the spread of education,

the drinking habits of this and other countries have greatly improved amongst the upper, middle, and higher working classes, but of late there has been an unfortunate setback in Great Britain owing to the conversion of the great breweries into limited companies. Those, for a time at least, offered tempting investments to persons of both sexes, and so enlisted hundreds of thousands of supporters for "the Trade," as it is euphoniously called, who would formerly have considered it a disgrace to belong to it. A further result has been the increased political power of the brewers and publicans who either openly or secretly bring their influence on every occasion to bear in aid of the great political party which they have enthralled. That misfortune is, however, not confined to this country, but prevails in a less degree in other Continental States, Austria to wit.

And how can it be otherwise, temperance efforts and legislative enactments notwithstanding, when about 165 millions sterling are spent in a year in this country on alcoholic beverages, of which amount about 100 millions are estimated to have come out of the pockets of the working classes, and when the

State derives a revenue from the trade which far exceeds the cost of the maintenance of the Navy.

Drunkenness is the root of almost every form of evil; crime, pauperism, insanity and prostitution, and the Chinese Emperor who attributed to it "the ruin of States" was not far from the mark. When we come to consider the progress mankind has made in the past and the probable future of the race we shall find it to be a serious factor, and a grave subject for reflection.

VI

MAN'S VICES (II)

LUST—TREATMENT OF WOMEN—MARRIAGE RITES—POLYGAMY—PROSTITUTION

NEARLY everything that has been said concerning the vice of drunkenness is applicable, in some respects more forcibly, to lust. We say more forcibly, but perhaps "shamefully" would have been the more appropriate expression, for in all times and nations the victims of the gratification of man's passions have been the mothers of his children, his devoted companions in life, his comforters in adversity, and indeed his "helpmates" under all conditions of his existence. It is an unpalatable subject, and were it not that the all-pervading vice tends to the demoralization of both sexes, the deterioration of the race, and, along with other forms of debauchery, to the ultimate ruin of empires and nationalities, we should have been glad

to omit it from the consideration of our readers. Even so, it may be as well to notify that we do not intend to say a word more than is necessary for our inquiry, and if there be any who look for what is misnamed, "realistic" writing, or who expect such details as pander to the prurient taste of readers of what are known as "risky" novels, they will have to turn elsewhere from these pages.

The subject may be considered under two heads; one the treatment of women as wives and mothers; the other as the objects of man's lust and pleasure. In former times men seem to have taken the lower animals as their exemplars in their dealings with the other sex. Neighbouring tribes fought together, probably already in prehistoric times, for the possession of women; and if even the story of the rape of the Sabines be not a historical fact, it presents on apt illustration of the primitive method of securing wives. "Marriage by capture," as it is called, still exists amongst certain uncivilized tribes, and it is not long since it was considered at least a venial offence in one of the three united Kingdoms. There is

little doubt that in the earliest times marriage was deemed an unnecessary rite, and it is believed by some writers to have been introduced with agriculture, giving to the word "husbandry" a double meaning. Be that as it may, polygamy, the possession of numbers of women by one man, by whatever designation they may have been known, wives, concubines, handmaids, was the normal state of affairs far back in history, for Solomon, who is held up as the model of wisdom, and who is said to have "loved the Lord," not only possessed a harem of hundreds of wives and concubines of many nationalities, but permitted himself to be led by them into the heathenish and sacrilegious practices of their respective countries. Immorality in its grossest forms was the keynote of some of those faiths, and the worship of Baal, Moloch, Isis and certain other deities was accompanied by the most sensual and degrading orgies; indeed their temples have been considered by some historians the breeding places of vice and immorality. Still the Jewish prophets and lawyers discountenanced and denounced such practices amongst their own people as being inconsistent with their

pure monotheistic faith, and Jahve is represented to have punished them with an unsparing hand. In Egypt, Persia and other heathen lands, however, those ceremonies were recognized as lawful and were patronized by the State.

Amongst the Indo-Aryans women are said to have been held in high esteem, and the sacred books deal at length with their marriage rites and ceremonies. Betrothal was celebrated by the presentation of fruit, flowers, cereals, and amongst the rich gold and silver ornaments. On the wedding day the bride was washed with perfumed water and decked in her bridal robe, "the wedding garment, the garb of the bride,"[1] which was presented to her by the bridegroom. After the arrival of the bride at the bridegroom's home, whither she was escorted by a procession of young maidens, further ceremonies followed, one being that the bridegroom took the hand of the bride and pronounced the formula: "As Agni" (Fire, another name of the supreme deity) "grasped the hand of this earth, so I grasp thy hand. Tremble not, thou art bound with me with children and

[1] Ludwig's *Rig. Veda*, p. 474.

with the gods. . . Soma the King shall make thee rich in offspring." Other ceremonies followed, notably that of the bridegroom, bride and priests going hand in hand round the altar on which the sacred fire was burning, the bride placing on the fire a special offering of meat decorated with Mimosa blossoms. As these details may be considered somewhat of a digression, we may add that we have noticed them on account of the resemblance they bear to some of our marriage ceremonies to-day. At Greek nuptials the bride, bridegroom and priests circulate in a chain seven times round the altar; bridesmaids are still supposed to wait upon the bride, and it is more than probable that the throwing of rice, which has always been the staple food of some eastern natives, is symbolical of the wish for prosperity that follows the married pair, from their friends and relatives. Although the prevailing tone of the sacred books makes out the wife to be brave and constant, and the husband her faithful protector, it is clear that polygamy was practised, and the women of conquered races became the slaves and concubines of the victors. Woman was considered inferior

to man, and a later Greek writer who was well acquainted with their customs says of the Indians that "they marry many wives whom they buy from their parents." [1] One frightful custom, however, which the modern priesthood falsely attribute to them is *Sati* or widow burning. They have done what even Christian preachers do occasionally, namely, seized upon some doubtful expression in the sacred writings—in this case a supposed Vedic injunction—to suit their own doctrines. If the British government had rendered no other service to the Hindoos than the abolition of this horrible custom they would have deserved well of humanity.

To cut a long story short, polygamy as practised at this early age has descended to our time, not only in India, where it is tolerated, but by Mussulmans who desire to be ranked amongst civilized nationalities. Passing over for the present the relations of the sexes in Greece, Rome and other eastern nations, where lawfully married women were protected by legislative enactments, we come to the advent of Christianity. The teachings and injunctions of Jesus, based no doubt

[1] Megasthenes.

to some extent upon the Hebrew Commandments; his example in dealing with women who were not even irreproachable, and the subsequent worship of the Virgin Mary, had a marked influence upon the treatment of the sex. Of the dealings of the priesthood, that is to say of monastic Christianity, we shall speak presently, but it may here be mentioned that the so-called age of chivalry in which woman is believed to have been placed in an exalted position, did little to improve her actual status, and it was not until recent times that wives have been recognized as the helpmates and often the equals or even the superiors of their husbands. And yet it needs no tax of the memory to recall the names of women who have distinguished themselves as models of power and wisdom, and who have presented themselves as examples to the stronger sex: Ruth, Vashti, Zenobia, Boadicea, Elisabeth of Hungary, Joan of Arc, Queen Bess, Florence Nightingale, our own great Victoria, and a host of others rise up before us as proofs that the noblest human attributes are not monopolized by either sex. Such women as those we have named have given a distinct and unique

stimulus to the progress of mankind, and their influence in that regard will be taken into account hereafter.

And now to consider as briefly as need be the more degrading aspect of the question. As we have already shown, from the earliest times concubinage was not only tolerated, but was sanctioned by religious teachers; and the worship of certain deities was characterized by gross licentiousness. In Athens houses of ill-fame were established under State auspices, and the habitations of the unfortunates were confined to certain quarters of the city. So little was thought of their degradation, however, that it was not uncommon for such women, who had enjoyed a good education, to exercise great political influence, and become popular favourites. The same kind of influence has since been used for their own advancement, or it has been employed by men to further their ends at all times and in every country. In Rome the same customs and practices prevailed throughout her history, and the remains of Pompeii testify to the open, unblushing existence of the traffic in vice. Concurrently with its practice, however, especially after

the advent of Christianity, the work of rescue began, and one of the most noted examples is the founding of a penitentiary for a large number of fallen women by Theodora, the wife of Justinian, who was herself a courtesan in her younger days. It is said that many of the women, unable to bear the restraint of their new lives, committed suicide. The Church generally carried on the work of rescue in its earlier period, but it is well known that as time passed, immorality became more and more prevalent in many of the monasteries until they were dissolved by that pattern of virtue Henry VIII. In secular life the songs of the jongleurs and the narratives of some of the leading poets fostered the vicious tastes of the better educated classes. Throughout the middle ages licensed houses of ill-fame were considered a legitimate phase of social life. In London there was a row of them, originally licensed by the Bishop of Winchester, and subsequently by Parliament, and in 1383 they belonged to the Lord Mayor, who farmed them out. Those too were abolished by Henry VIII, who evidently required men to obey his teaching rather than follow his example. During the Reformation

a crusade against licensed houses set in all over Western Europe and houses of ill-fame were closed in many places. In Hamburg it is said they were pulled down and the unfortunate inmates driven from the city. The Puritans persecuted courtesans, inflicting various degrees of punishment upon them; men also were subjected to penalties, an example which might with justice be followed in our day. The strictness of the Puritan rule, however, led to a reaction, and the return of the Stuarts to this country was the harbinger of increased license and debauchery too well known and described to need further comment.

In recent years there has been again a tendency to suppress prostitution by legislative enactments, always directed, however, against its unfortunate victims. Some of those enactments, however, which it is unnecessary to particularize, though well-meant have the opposite tendency, but the efforts of all religious bodies and social reformers are now directed to the work of rescue. The real causes of this phase of immorality can only be reached and remedied by public opinion, for upon Society at large rests the respon-

sibility of its existence and continuance. Those causes are, the insufficient remuneration of female labour, the licentiousness of both sexes, seduction by men, desertion, drink, the crowding of masses of young women and girls in factories without sufficient supervision, and, what at least one large section of Society will be unwilling to admit, the growth of ostentatious luxury amongst the rich, and the consequent temptation of the poor to follow their example without possessing their means. What may be considered a result as well as a cause of prostitution is the existence of the fiends in human shape who live upon the traffic by procuring victims for the lust of men. Sometimes those are men, at others women, but in all cases they are fortunately criminals amenable to the law of all nations. In fine, however, it is the combination of excess in drinking, with the debasement of the sexual instinct, which has been the chief stumbling block to progress, and has often led to the decadence and fall of nations in the past. Of the future we shall speak hereafter.

VII

MAN'S VICES (*concluded*)

Gambling in All Ages—Gambling in Trade.

Before commercial enterprise and certain other "resources of civilization" opened up new fields for man's gambling propensities, that vice was mainly confined to dice, cards and horse-racing. Various dates have been assigned for the earliest use of dice, but they were certainly known to our Aryan ancestors, for in the same sentence, already quoted, in which the Indo-Aryan sought to justify himself before India on the ground of intoxication, he pleaded "dice" in mitigation of punishment. "It was not our doing, O Varuna, it was temptation, an intoxicating draught, passion, dice, thoughtlessness." From that day to the present various kinds of property have been staked on the dice box, but the little ivory cubes are not now frequently used except in backgammon, a game

rarely played for money. With cards it is different, and the Chinese, who are and have always been inveterate gamblers, claim to have invented them. It was not, however, until about the middle of the fourteenth century that there are any authentic records of the use of packs of coloured cards in Europe, and it is a debatable question whether that was in France or Italy, although it is said that in England some descriptions were mentioned as far back as the thirteenth century.

It is unnecessary to follow their employment, nor the stakes for which they were played. One instance will suffice. It is said that an estate was staked and lost by an ancestor of the Stanley family in Bidston parish, Cheshire, and that on the manor house, now a farm, there is a slab on which the ace of spades is carved, that having been the losing card; whether or not it is there now, we are unable to say. Neither need we waste the reader's time over an enumeration of the various games which, whether alone or in combination with other devices, have been played with them. Their name is legion, the best known being perhaps Whist with numerous variations, some, such as "Boston,"

being very intricate and interesting; Loo, Vingt-et-un, Bezique, Poker, Roulette or Rouge-et-noir, Baccarat, Bridge, and some other games of chance, the sole aim of which has been to encourage gambling. They have been played everywhere, even in railway carriages and on board of steamships, often to the cost of travellers who have been defrauded by card-sharpers and professional gamblers. All the games just named and many others have served for the conveyance of money from one pocket to another, and frequently their use by unfortunate players has led to ruin and even suicide.

Horse-racing may be traced back to very early times, and when uncorrupted by betting it has not only been a noble sport, but in combination with other forms of athletic exercise it has done much in the formation of national character. Such were the earlier sports of ancient Greece and Rome, where the chariot and horse races and pedestrian feats often formed part of religious festivals; and those exercised an excellent influence upon the masses, until they became the agencies for bloodshed and persecution, or were used as devices to cloke the despotism

of rulers, or the wiles of politicians. In modern times, too, they would have been an almost unmixed benefit, not only as a legitimate sport, but for the improvement of the breeds of horses, were it not for their discreditable accompaniments of betting and chicanery; indeed "the turf" has become a byeword of evil. All classes have resorted to it to earn money unlawfully or to gratify the love of gambling, from Kings on their thrones to the humblest of their subjects who are tempted to follow their bad example. In the latter case the labouring man often robs his wife and family of their means of maintenance to put money into the pockets of professional "bookmakers" who trade upon his credulity and avarice. And the whole system serves to illustrate the adage that there is one law for the rich and another for the poor, for whilst noblemen and the well-to-do are at liberty to bet to their heart's content, and the public journals to record the state of the betting market, bookmakers and betting men of the poorer classes who carry on the same practices in holes and corners are "raided," hauled up before the magistrates as law-breakers and fined or imprisoned.

But all this is trifling compared with the gambling that goes on in commercial circles. There are few branches of trade, and those the less important, which are conducted quite legitimately; for the share and trade circulars of the markets for corn, cotton, shares, iron and many other industries are regarded by innumerable dealers and brokers as so many roulette tables on which they may place their own or their clients' stakes. And moreover, such gamblers often denounce the humbler sinners for putting their money on horses, football or other agencies that are afforded to them, for indulging in the same propensities as their "betters" (the pun is unintentional). Indeed it is no exaggeration to say that however flagrant the vice of betting and gambling may have been in years gone by amongst the upper classes, there has never been a period in the world's history in which it has been so widespread as it is in our day.[1]

[1] An interesting chapter on Gambling in this country will be found in *Bath under Beau Nash* (Eveleigh Nash, 1907). At p. 184, the reader is told that boys and girls frequented the tables. Indeed, Walpole said in 1741, "It is actually a ridiculous, though, I think, a mortifying sight, that play should become the business of the nation

This is so well recognized that the public conscience is aroused to its dangers to Society, and certain methods of gambling are prosecuted as illegal. In some countries, notably in Germany, legislative enactments forbid the purchase and sale of articles of commerce which have no actual existence, gambling transactions based on the rise or fall of the markets only; and anti-gambling Leagues are being established to set the law in motion and generally to promote a healthier public opinion on the subject of gaming. Although its effects may not be so apparent as those of drunkenness, and other social evils, there is no doubt that its widespread practice has a deteriorating influence upon the human race, and is another stumbling block in the way of its advancement.

from fifteen to fourscore." His remarks, however, apply only to the middle and upper classes.

VIII

MAN'S GREATEST CURSE: WAR

With Primitive Man—Fate of Warlike Nations: Its Effects—Position To-day.

The character of man is blemished by many other failings and vices than those to which reference has been made in the preceding chapters; by avarice, hatred, pride, vindictiveness, jealousy and envy, national as well as individual, by untruthfulness and hypocrisy; but the gravest of all crimes which appears almost to have formed an integral part of his nature is war. In justification of that curse, which includes many of the lesser evils, we expect to be met with all kinds of arguments, and it is as well to admit at once that some of them are sufficiently plausible, and apparently well-founded. We shall be told that war has always existed, and, it will be added by many persons, that it will continue to be practised to the end of time,

that it forms part of man's nature, and that therefore every one must be prepared to resist the attacks of his enemies; that it affords opportunities for the display of courage, which is a virtue; of patriotism; and instancing, perhaps, the case of Florence Nightingale, that it develops the quality of mercy, a divine attribute of human nature. The reply to all those pleas for war, to which others might be added, is that none of them justify the taking of human life, and that war is a relic of barbarism which should disappear with civilization. The only word that can be said in favour of its past existence, but not of its continuance, is that in his primitive state man was endowed with combative instincts to enable him to cope with his four-footed enemies, and that whilst he was himself but little above them, those instincts were not likely to disappear from his lower nature. Attempts are made to show that war was permitted and even encouraged by Providence, but there is no denying that the greatest religious instructors of our race have always disapproved of, and vigorously denounced its practices. "Thou shall do no murder." "Thou shalt not kill." "Ye have heard it was said of them in old time, 'Thou

shalt not kill: and whosoever shall kill shall be in danger of the judgment,' but I say unto you, whosoever is angry with his brother shall be in danger of the judgment"; and "All they that take the sword shall perish by the sword." No doubt it will be maintained that in practice it has not always been possible to obey these injunctions; but history has shown that the last of them, the prophecy against using the sword, has been strikingly verified by experience. Every empire which has been built up on a military basis has fallen through the same means. We say "empire," because the saying has not always applied to individuals; every conqueror has not shared the fate of Cæsar or of the two Napoleons. But take a few instances from universal history, and it will be found that where the sword has carved out empires it has been invariably the instrument of their fall and the dispersion of their territories.

The conquests of Alexander in India were scattered amongst his generals; so, too, at first were those of the first Napoleon in Europe. In India again the Empire of the Maghuls was parcelled out amongst the Portuguese, French, Dutch, and English, and so far at least the last

named alone have held their ground. Ancient Greece fell before the Roman arms ; and Rome herself before those of the Barbarians. Mohammed and his successors raised up an empire with the edge of the scimitar, of which one province, Egypt, is now a British protectorate ; another is ruled by France, and several are independent States, mostly aided in their struggle by Russia—with selfish and aggressive aims of her own which have been unsuccessful. What is to be her fate has still to be decided. In Spain the Moslem conquerors were driven out by the Christians, and in their turn the vast possessions of the Spaniards in the Netherlands and South America are but a memory, whilst the people of the United States, ignoring their own pacific declaratons, have robbed her of two of her most important provinces. In fact, although warriors and warlike nations have often been temporarily successful, it is obvious that in the long run war has been not only a crime but a blunder, for even in the height of its prosperity every bellicose nation goes in fear of its neighbours.

Of the gradual change which is coming over the warlike spirit we shall speak hereafter ;

but now let us ask, what does war mean? It means the suffering of the masses who have ofttimes no interest whatever in the game, the destruction of their homes; it may be the slaughter of their families for the gratification of one or more self-seekers in high places, who themselves incur no kind of risk. It means the brutalizing of whole armies of men who are often fit for no civil employment, but who are ready, as John Bright said, to risk their lives for sixpence halfpenny per day (it is rather more now), and to slaughter their fellow-creatures who have given them no cause of offence. It disturbs the good relations of peaceful nations, squanders their resources, burdens them with unnecessary taxation, and supports a community of professional fighters who are always on the alert for a cause to justify a "war scare," and finally it enriches army and navy contractors who only prosper when legitimate trade is suspended.

Although there is no denying that the usages of war have become less savage as men became more civilized, still they commit acts of which, as peaceable citizens, they would never dream of being guilty; and it is the effect of war upon Society generally, upon public

opinion in fact, that has the closest bearing upon our inquiry, for the proportion of mankind actively engaged in war does not exceed one and a half per cent. of the whole population of the globe. Whilst it continues it engenders and encourages some of man's worst passions and failings; cruelty, hypocrisy, false patriotism, hatred of neighbours, and a perverted sense of honour. Even the realistic pictures of Verestchagin or the graphic narratives of newspaper correspondents at the seat of war fail to have a softening effect upon the craving for bloodshed which pervades whole sections of Society; whilst lovers of peace are held up to ridicule or even denounced as enemies of their country. To be satisfied that this is so, it is only necessary to take up the illustrated journals which pander to the vitiated public taste; papers which, in their desire to please a certain class of readers, depict warlike events which have never occurred. Hypocrisy and vanity are amongst its other effects. The "war-lord" who joins in the cry of peace and international amity walks up the aisle of God's house in uniform, his sword clanking on the pavement, and appears on suitable occasions in the military attire of his numerous

regiments, or in those of some of his hereditary enemies. The same applies to most crowned heads, who would not be so conspicuous in their war paint, if they reflected that it is but a slight modification of the armour-clad warrior of barbarous ages or the bedaubed and befeathered Red Indian chief of to-day. Such warlike displays are quite inconsistent with the pacific declarations with which the world is favoured from time to time, and they offer a bad example to peacefully disposed citizens. If military operations are still considered necessary for defence—for aggression they are criminal in the worst degree—they should be conducted with a spirit somewhat more consistent with men's professed convictions. Nor should religion, so misnamed, be dragged into the arena, by worshippers who pray to be saved from "battle, murder, and sudden death," and the shepherds of Christ's fold who invoke a blessing on regimental colours, or upon the newly launched ironclad, and pray to the Prince of Peace to help and encourage it in its work of slaughter and destruction.

Nor have men of the highest intelligence disdained to prostitute their noblest attain-

ments in the service of the sanguinary profession. From the earliest times the making of arms was an honoured handicraft. The sword, the spear, the bow, and the battle axe were the objects of man's solicitous care; later on, with the invention of gunpowder, his instruments for destroying life became more and more deadly. If one man invented a projectile of great destructive force, another at once devoted his best thoughts to the discovery of a counteracting agent. No device, however useful in the arts and innocent in its aims, has ever been brought before the world, but professional warriors, supported by rulers and statesmen, have perverted it into an instrument of manslaughter and for the destruction of property. Throughout the ages the dry land, given to man for purposes of agriculture, has been drenched with blood to gratify the ambition of some ruler or the passions of a nation. Did some hardy navigator conquer the ocean, immediately his armed fellow-men availed themselves of his peaceful enterprise to colour it with the blood of their enemies; and before the invention is perfected which shall enable the denizens of the earth to travel above its surface, it is seized upon by

rulers of all kinds, Emperors, Kings, Presidents of Republics, and Constitutional Statesmen, to make the air resound with the clamour of war, and to transfer to its boundless realms also the sufferings of its willing but deluded victims. Such is war, as it is carried on by those self-same rulers and statesmen who are endeavouring to terminate a state of things which every rational human being, when it is put to him, without an attempt to condone or justify, at once pronounces to be the shameful survival of a barbarous age.

IX

MAN'S VIRTUES (I)

Temperance—Contrasts between Drunkenness and Sobriety—Continence—Legitimate Enterprise—The Noble Rich

In our second chapter we endeavoured, very superficially, to trace man's material progress by a brief account of the improvements which he has made in his methods of agriculture and the preparation of his food, and having fulfilled the distasteful task of holding up to view the vices which have militated against his progress, it becomes now our more pleasing duty to show how his virtues have ministered to his material and moral welfare.

With this aim in view it will be convenient to mention in the same order the vices referred to, and to treat of their contrary virtues before passing on to others which have been conducive to the progress of the race. If drunkenness has been a hindrance, temperance has been an auxiliary to civilization. As the

Veda and other sacred writings of the east show, intoxicating drink was recognized as a great evil in the earliest period of history; and men offered up prayers for help to resist its temptations. The Hebrews and early Christians did not absolutely prohibit the use of wine, but they denounced intemperance, and forbade it to the priesthood.[1] "Wine," they said, "is a mocker; strong drink is raging.[2] Be not drunk with wine wherein is excess."[3] In later times, although there was much intemperance in certain monasteries, the inordinate indulgence in wine was visited with punishment; and in secular life severe penalties were enacted, with little effect, however, to restrict the use of intoxicants. Indeed there was no marked encouragement to temperance until the foundation of modern temperance societies. In this country the first society was started by Mr. Forbes of Bradford on February 2, 1830, and was followed by others in the three kingdoms. The name of the reformers was legion, and their principles of temperance and total abstinence were encouraged and enforced by means

[1] Numbers vi. 3. [2] Proverbs xx. 1.
[3] Ephesians v. 18.

of the administration of the pledge, lectures, Bands of Hope for the young, and by the provision of coffee taverns and popular entertainments as a counter attraction to the gin palace. A weak spot in the agitation has been that the zeal of its more extreme partisans has caused them to refrain from encouraging progressive temperance legislation in their anxiety to secure drastic measures of suppression; and thus to lend plausibility to the cry of confiscation and spoliation on the part of brewers and publicans whose business it is to sell drink, and not to watch over the morals or welfare of their customers.

In order fully to appreciate the importance of the subject and its bearing upon the material, moral, and intellectual condition of mankind, it is only necessary to contrast the pictures of an intemperate with that of a temperate member of Society. Birth, education, talent, all count for nothing with the unfortunate victim of intemperance, and wealth only expedites his downfall. No situation in Society, no useful or remunerative employment is of long duration; disease and mental debility mark his downward course; the respect of his neighbours and of himself are

forfeited by the habitual drunkard, and sooner or later he becomes a burden upon Society.

On the other hand there are no bounds to the successful career of a sober man, however humble his birth or restricted his means. From a railway labourer he may rise step by step until he becomes first the manager, then the chairman of his line; or he may be chosen by his fellow-workmen to represent them in Parliament. From a warehouse porter or dock-labourer he may rise to the position of a successful merchant or shipowner; from a druggist's apprentice to be a Fellow of the College of Physicians; from a journeyman engineer or millwright he may become a successful steamshipbuilder; a man of social value in municipal affairs; even a cabinet minister. Every reader knows that these are not imaginary cases; and in all of them "*Mens sana in corpore sano*" has been the key that has unlocked the door to eminence and success in life. And not that alone, but mentally he retains his native capabilities, and educates them to a higher level, so not only ministering to his individual advancement, but serving his age by the spread of useful knowledge, or, it may be, by wise legis-

lation. As with the individual so with the race, and although the tide of temperance has often ebbed and flowed, the outlook of the future is hopeful, and it is making a steady progress in all ranks of Society.

Of the advantages of continence in sexual intercourse little more need be said. Whilst polygamy and polyandry are the condition of the savage and less civilized races, and the seclusion of women means the arrest of enlightenment, monogamy, conjugal affection, purity, and mutual regard are the characteristics of all nations which are in an advanced stage of civilization; and without entering more fully into the relations of the sexes we think it may be predicated that the cultivation of mutual confidence, the opening of added spheres of usefulness to woman and the recognition of all her rights cannot fail to be amongst the most important factors in moulding a happy and successful future for mankind. We shall have occasion to revert to other phases of the subject hereafter.

And now a few words about legitimate enterprise as compared with every form of chance and gambling. Although the latter may have a temporary success, it only repre-

sents the feverish excitement and intoxication of human activity, and is followed by a reaction, usually involving the dissipation of its gains, or even their speedy loss through the same uncertain channel. Steady plodding enterprise has no such disadvantages. Whatever a man gains by "the sweat of his brow" he saves and values, and it brings him peace and worldly rest and happiness. Instead of being frittered away in the practice and encouragement of vice and luxury, it is multiplied for the use of its owner, for the material advantage of his successors, and usually to alleviate the sufferings and minister to the needs of Society.

And here we desire to say a few words in defence, or rather in commendation of a somewhat underrated class of society, we mean the rich—that is to say the noble rich. When Jesus said that it is "hard for them that trust in riches to enter into the Kingdom of God," [1] He was surely right, for riches come to-day and go to-morrow, but He never could have meant that the mere possession of wealth is a stumbling block to what is called "salvation." Will any one venture to assert that a man

[1] Mark x. 24.

who has earned his fortune honestly without infringing on the rights of his poorer neighbour—for that is a condition often disregarded in money-making—that such a man who has not made the acquisition of wealth his chief aim in life, and who employs that wealth to the advantage of Society, has one whit less claim to the "Kingdom of Heaven" than the most zealous pietist? The world is full of the noble rich, not only amongst Christians but in every nation, in every religious faith, aye, and even amongst men of no distinctive creed. They found almshouses and shelters for the aged, the widowed and the orphan; hospitals for the sick and maimed; colleges, scholarships and professorial chairs for the education of youth; free libraries and art galleries for the enlightenment of the masses and the cultivation of the public taste; build or contribute liberally towards the erection of places of worship; head every subscription for the alleviation of suffering in every part of the world; and provide the means of saving human life whilst rulers and statesman are wasting the public revenues in inventing and perfecting instruments for its destruction.

Such, in a few words, are the noble rich, but it is not they only who practise the human virtues of benevolence and charity. As we all know, the widow's mite has the same intrinsic value as the munificent subscription of the millionaire; greater indeed, for he gives of his affluence and suffers no inconvenience thereby; but she in her self-denial gives of her poverty. Noblest of all, however, is the Altruist who devotes fortune and life with all its powers and advantages to the service of Society; who voluntarily relinquishes his social privileges and enjoyments; lives amongst the indigent, wretched and even debased; provides them with healthy occupation suited to their station; keeps them from indulging in degrading pleasures, and strives to raise them out of the mire in which they have wallowed probably through the chances of birth, misfortune or environment. Humble and unostentatious as their labours may appear, such men are doing more for the regeneration of the race than the most conspicuous philanthropists. And a promising sign of the times is that they are better appreciated than of yore. Instead of being "reviled and persecuted" they are often admired,

and aided in their self-denying labours by men and women of all ranks, without regard to social or religious considerations. To mention the names of such men would be invidious; they are drawn from every section of Society, and are found in every nationality. They embody in a remarkable degree the highest human virtues, pity and sympathy for the distressed and suffering, disinterested benevolence, self-denial, moral courage (for their efforts are often fruitless, and ingratitude their reward), and a high phase of the spirit of enterprise in carrying out their practical methods of philanthropy.

What is the value to mankind of the filibuster who secures a new province for his nation at the cost of bloodshed and plunder, compared with the enterprising citizen who founds a system of benevolence whereby hundreds of thousands of waifs and strays are trained to become useful members of Society at home or industrious and orderly colonists in some distant partially developed commonwealth?

X

MAN'S VIRTUES (II)

Moral and Physical Courage—Life Saving at Sea and on Land—Missionary Enterprise

There are many kinds of moral courage besides the philanthropic phase just described, to wit: the determination to refuse bribery, or to resist any form of corruption however advantageous it might be from a material or social standpoint; the disregard of public opinion when it would necessitate the desertion of a just cause; the adhesion to an unpopular religious creed that was righteous in the believer's eyes; still more so if it might jeopardise his means of livelihood. But it will be more consonant with the aim of these pages if we now direct our attention to the phase in man's character known as physical in contradistinction to moral courage; and as the subject is a wide one the reader must be content with a few suggestive examples

which he may multiply at his discretion. First, then, we will speak of the courage and endurance necessitated by geographical exploration; the pursuit of knowledge regarding man's earthly home. There is no denying that in this respect war has sometimes been an accessory. The conquests of Alexander in India, and Cæsar in Europe, but the latter more especially, are cases in point, for we should certainly have known little of the Germans or their country had it not been for the records of Cæsar's conquests; neither must the fact be overlooked that exploration has very often been due to selfish aims, such as the acquisition of territory, of mineral wealth; or to the desire for fame; and that only in recent times have exploring expeditions been undertaken, and men's lives risked and often sacrificed from pure motives of scientific research. Such have been the expeditions to the north and south polar regions or to unknown parts of the continents of Africa, Australia, and South America. No doubt, however, the pursuit of trade has been one of the chief objects of exploration, and so far as the navigation of the seas is concerned it has presented two interesting features; one the utilization of the

forces of Nature subject to her varying moods and caprices, and the other the conquest of those forces themselves and their subjection to the service of mankind. Of those two phases the sailing ship and the steamboat may be taken as typical examples; and in both the navigator has been largely aided by the invention and use of the mariner's compass, the quadrant, and sextant, as well as by astronomical observations.

The Phœnicians of Tyre and Carthage may be said to have embodied the naval and commercial enterprise of early times. Their ships penetrated into every part of the known world, even as far north as the British Isles. Those they are said to have circumnavigated, arriving at one period at an island in or near the arctic circle, believed by some to have been Iceland, by others one of the Shetland Islands. Whichever it may have been it was regarded by the Romans as the *ultima thule*, the farthest boundary of the earth. The Phœnicians traded in all the products of the East, and traces of them are found in Cornwall which they visited and mined for tin, still one of the mineral treasures of that county. Other nations who were hardy navigators in

ancient times were the Egyptians, and conspicuously the Northmen. The latter are usually remembered only for their raiding expeditions, a Viking being synonymous with a sea-robber; but others with less barbarous objects rounded the North Cape and entered the White Sea, or crossed over and explored the coast of Greenland. In later times the Venetians and other Mediterranean republics fostered the spirit of commercial adventure and navigation, and Genoa enjoys the privilege of having given birth to the most enterprising, courageous, and persevering representative of maritime exploration the world has ever known—Christopher Columbus. He was born in Genoa in 1435, and the story of his voyage across the Atlantic with its disheartening obstacles and its ultimate success serves to accentuate in a remarkable degree the rôle of the pioneer which has found so many brave and efficient actors. He landed in San Salvador, probably one of the Bahama Islands, in 1492, and was followed in his explorations by a host of hardy adventurers, notably by Americus Vespucius who landed at Brazil, and by John and Sebastian Cabot who successfully explored the Canadian coast

and Newfoundland. In 1497 Vasco de Gama doubled the Cape of Good Hope, sailed some distance up the east coast of Africa, and eventually reached India ; and amongst the hardy adventurers who kept alive the spirit of exploration were Drake, Frobisher, Hawkins, Davis, Baffin and others whose names have been handed down to posterity through the localities called after them. Nearer to our time we find the ill-fated Captain Cook, who added much to our knowledge of the South Seas ; Ross and Franklin, pioneers in the Arctic Seas, followed by McClintock and others, and recently by Nansen and Shackleton, the former in the north polar, and the latter in the antarctic regions of the globe.[1]

As for exploration on land, the very names of the pioneers of civilization and colonization in Africa and Asia, from Mungo Park to Livingstone and Stanley, would fill pages, but their exploits would but serve further to emphasize the courage and endurance of man in his efforts to reclaim the desert and the prairie, so we must pass on to the expression of those great qualities, as it is met with on

[1] Of Peary and Cook it is too early to speak.

the simple and disinterested call of duty and humanity.

Although those incidents are less demonstrative, and therefore receive scantier notice from the world at large, they really represent the highest forms of bravery and self-sacrifice, and to do them full justice would need, what we do not pretend to possess, the pen of the descriptive writer and commentator. Such a narrator, for example, would give a graphic account of the saving of life at sea ; the firing of the alarm rocket once, twice, thrice ; the hurrying of men and horses to the seashore ; the launching of the life-boat and the equipment of the boatmen in their life-belts; first the straining at the oars and battling against the breakers ; then the hoisting of the sail ; the report of the rockets from the distant, perhaps invisible vessel in distress ; the approach of the life-savers, and eventually the rescue of women, children, and men, and their transference from the sinking craft in safety to the shore, to be ministered to by the friends and relatives of the brave rescuers. Or he would tell of the lonely watcher in the pointsman's hut, whose lever has failed to

act, and who at the imminent risk of his life hurries up the line and places himself in the course of the rushing train with its .living freight, and waving his red flag or lantern arrests its progress to destruction. Or again he would describe the outbreak of some epidemic disease, driving from their homes hundreds of families, whilst a few devoted men and women for whom the plague had no terrors remained behind to stop its ravages and to save many precious lives at the risk, and often the loss of their own. Perhaps there would flow from his facile pen the vivid narrative of a conflagration, kindled it might be by criminal hands; the warning of the alarm bell; the almost automatic harnessing of the horses; the race through the crowded streets of the fire-engine with its helmeted escort; the multitude of eager spectators around the burning building kept at a safe distance by the watchful police; the cry that a woman or a child was left in an upper storey; the poised and hastily placed ladder; its prompt and speedy ascent by some daring fireman; the fall of the window frame, and crash of glass under the blows of his axe; his disappearance into the smoke; the breathless

suspense of the masses below; his reappearance bearing in his arms an insensible woman or child with which his descent would be effected amid thunders of applause, both rescuer and rescued being perhaps little worse for their terrible experiences.

Mayhap he would speak of the devotion of some youthful missionary, quitting his home and leaving his friends and the comforts of civilization to find a field for labour in his Master's service amongst cannibals; returning broken in health after many years of expatriation to find dear relatives departed and all things changed; perhaps never returning alive from his self-imposed mission of love and devotion. Or lastly, such a writer might find a fertile subject for his pen in the story of a miner's life, with half of it spent underground in darkness and a dank atmosphere in order to provide the comforts of civilization for his more fortunate fellow-men above ground; and in the description of one of the most awful incidents in such an occupation, a colliery explosion. He would tell of the silence that would reign in the sleeping village; silence broken by a loud explosion; of the hurrying to the pit of sad-browed men and anxious

women and children ; of the hasty but systematic preparation at the pit-mouth of the work and appliances of rescue, of the descent into hell's mouth of half-a-dozen or more heroes—no distinction of social rank or position—of the foul gases; the broken timbers; the unrecognizable bodies ; and at length the apparently impenetrable wall across their path, not however impenetrable to them. Then, of steady and persevering labours with pick and powder, perhaps from day to day, with diminishing hope of saving life ; until a faint knocking beyond inspires fresh courage with added exertions ; and eventually the deliverance of many survivors trembling on the brink, or alas! the discovery of others whose days on earth are ended.

Such scenes and incidents with their actors, terrible though they appear, are noble, admirable, and typical of the highest, nay the most divine of man's attributes, courageous and disinterested self-sacrifice.

XI

MAN'S VIRTUES (*concluded*)

PHILANTHROPY—SWEATING AND ITS REMEDIES—ELEVATION OF WOMAN—OTHER PHILANTHROPIC MOVEMENTS

BEFORE passing away from the consideration of the progressive phases of man's nature it is right that we should glance, however briefly, at a few of the movements at present active for improving the condition of women and children. We referred in a preceding chapter to the services to mankind which have been rendered by eminent women of high rank, but we desire more especially to speak of the labours of the humbler orders. The law would now forbid a resort to the ducking stool for scolds, but it is still inefficient to deter the wife-beater from indulging his brutal proclivities; and the conscience of Society is but just awakening to the fact that there dwell in the midst of plenty and luxury, whole classes of social slaves with whom destitution and disease are the normal con-

dition. What will the historian of 2000 A.D. think when he has to record that a hundred years before his time poor workwomen were "finishing" trowsers (which means doing everything but cutting and tacking the cloth into shape) at twopence halfpenny a pair, finding their own materials; and that "women who were starving were obliged to take what they could get," namely $1\frac{1}{2}d.$ to $1\frac{3}{4}d.$ per pair. Or, "that makers of paste-board boxes received the handsome remuneration of twopence per gross"—as the word may not be longer in use, per 144 boxes; that in some cases they thus earned 2*s.* 3*d.* per week, and were indebted to parish relief and private charity for the rest of their income, amounting in all to 7*s.* or 8*s.* a week.

The existence of such a mass of starving women earning all the year round an average of 8*s.* per week made it clear to all right thinking men that "low-priced labour is a great obstacle to improvement," and "that the overcrowded and under-nourished woman is the greatest menace to the prosperity of the nation as a whole." [1] It is to remedy such a

[1] Extracts from the *Report of the Select Committee of the House of Commons on Sweated Industries.*

condition of Society that legislation is being enacted not only in this country but in every civilized State for, in varying degrees the same abuses exist in Germany, France, Switzerland, the United States; and other movements with the same object are active wherever Western nations possess influence. It would be unfair to our own sex to say that those movements are promoted by women alone; on the contrary the latter have received the warmest support from philanthropic men of all ranks and of every religious denomination, and they would never have been able so far to accomplish their aims were it not for the exertions in their favour of men in times gone by. We could, however, name from memory a score of leaders amongst the working women themselves, whose eloquence, zeal and perseverance are reforming and transforming their poor neglected sisters, and raising their moral and material standard of life. Their efforts, too, are effectively helped by the pecuniary support and personal services of ladies of all ranks; and in short the improvement in the condition of the weaker sex, as well as the cultivation and increase of sympathy for their sufferings, promise well

for the future happiness of the whole race.

We have already referred to the demands for the rights of women as a class, and although the methods of attempting to obtain political equality, which are practised by a certain extreme section, does not commend itself to the majority of their peace-loving sisters, there is little doubt that time and perseverance will secure for the sex enough political influence to put an end to all the abuses of men's power which exist at present. Of the future results of such emancipation we shall have occasion to speak hereafter.

The case of children is equally important, indeed it is the corollary of the preceding facts; for starved women can neither bear nor rear a healthy offspring. Until recently hundreds of thousands of the waifs and strays of our towns and cities were allowed to grow up and develop into drunkards, thieves and prostitutes; but there, too, the altruistic phases of man's nature, the public conscience, and the recognition of the danger to Society generally of such a state of affairs, has brought into existence a great number of excellent organizations to check and, if possible, to remove the existing evils. Educational reform in

all its varied phases; Societies for the prevention of cruelty to children; Police-aided associations for clothing destitute children; Orphan Asylums; Bands of Hope; Hospitals and Convalescent Homes for children; Holiday resorts of various kinds, including summer camps for children of both sexes, besides less permanent devices for temporarily removing children from their squalid surroundings and enabling them to participate in the enjoyments of life hitherto reserved for the well-to-do—those are some of the means by which a new leaven is being introduced which will assuredly transform the whole surface and the depths of Society.

As we shall have to review the facts stated in the preceding chapters when we come to treat of their bearing upon man's future, we must for the present close these considerations of his moral nature, and of the promising changes which are being brought about by his higher and nobler attributes.

PART II

XII

MAN'S MENTAL PROGRESS (I)

EDUCATION—VARIOUS FORMS OF—ASTROLOGY AND ASTRONOMY—ALCHEMY AND CHEMISTRY—PSYCHOLOGY

EDUCATION: what does it mean? In its widest sense (and so we shall have to treat it) it means the cultivation and development of man's mental faculties and the best mode of their application to his life now and hereafter. The wide range of the subject must be our apology for treating it in a perfunctory and general manner, leaving the student to select any subject or subjects he may choose for further investigation. As, however, our ultimate aim is, by simple inductive reasoning, to arrive at some idea of Man's present condition and its relation to his probable future, errors in detail may not necessarily be fatal to our general conclusions. We shall limit the range of our inquiry in the first instance

to elementary and higher instruction, and to the results of such instruction as they relate to pure and applied science, invention and discovery; in other words, we will seek to ascertain what have been the relations between Man's educational training and his inventive faculties. In early times education was the function of the patriarch and priest or the parents who "trained up a child in the way he should go," and it was only later that the State concerned itself with the matter. About 450 B.C. we hear of public schools when young Virginia—

> With her small tablets in her hand and her satchel on her arm,
> Forth went bounding to the school nor dreamt of shame nor harm.

Education by the State was first established by Plato, and from his time to the present, although clouds and darkness have often temporarily overcast nations or whole continents, there has been a gradual spread of secular education, until now the great mass of the people in every civilized land receives gratuitous instruction, at least in elementary knowledge. Some idea may be formed of the advance thus made when it is stated that

to-day out of thirty-two countries, where any record is kept, free, and in most cases entirely gratuitous, primary, and in some cases secondary, instruction is imparted to twenty-eight, whilst in the remaining four,[1] China, Egypt, Turkey and Russia (where only about 8 per cent. of the inhabitants have received any instruction whatever), the system of education is very imperfect in the modern sense. The growth of higher university education has also been fostered by rulers and statesmen, and whilst until recent times the sphere of its action has been largely restricted to classical and theological lore, the last half century has witnessed an expansion in its aims and operations such as has not been experienced in the whole previous history of mankind. Both in the eastern and western hemispheres higher colleges and universities have sprung up in every great centre of industry and civilization. Here and there single individuals have endowed seats of learning with millions of pounds; whilst with lesser sums technical schools, libraries, museums and art galleries have

[1] Since these lines were written it is stated that Education in China is to be made compulsory.

been founded by individuals and maintained by local authorities or the State with a view to popularize knowledge, or to prepare artisans and commercial clerks; indeed, young men and women in every branch of industry for the more efficient performance of their duties in after life. Although, perhaps, in a less conspicuous manner, an impulse has been given to the study of pure science for its own sake, which is adding a new phase to man's nature, and is transforming and reforming his ideas and conception not only of material but of what is called supernatural or metaphysical existence.

In pursuing an inquiry in this connexion we are struck by two important phenomena which, although well-known, are not sufficiently recognized. One is that if it were not for invention and discovery which have imparted increased powers of observation, or, indeed, new senses to man, he could never have made such rapid strides in the acquisition of useful knowledge; and the other that many of the most important truths have been based upon previously existing error. Let us take two or three examples which may be elaborated hereafter. From the earliest times, and

notably in the middle ages, astrology treated of a supposed influence of the motions of the heavenly bodies on the lives of men, and the astrologer was a person who undertook, by the observation of the stars and the practice of a mystic science, to predict men's fortunes. Frequently such men were pretenders who, from interested motives, traded upon the credulity and superstition of the ignorant; and even kings and statesmen were influenced by their prognostications. Astronomy, which received accessions of genuine knowledge from the observations of the astrologer, treats scientifically of the motions of the heavenly bodies, and has attained a stage at which, by their observations with mathematical aid, the skilled astronomer is sometimes enabled to detect the existence of a previously unknown and invisible star or planet, but the pretensions and false teachings of the astrologer are dismissed as fables, or only survive in frauds perpetrated upon ignorant servant girls. Again, the alchemist of the middle ages was the precursor of the chemist of to-day. He (the alchemist) tried experiments with his rude alembic or still, the object of which was to discover the "Elixir of life," which

was to secure immunity from disease and death ; or he sought to transmute the baser into the more precious metals in his crucibles. Although he failed in both cases, his investigations have found fruition in the practical labours of chemists and metallurgists, though not in the direction that was intended. And whilst we are touching on this phase of the subject it may not be inappropriate to notice its application to our own day. In the course of his studies the micro-zoologist, searching for new theories of life, has sometimes imagined that he detected the vivification of organic matter ; that, in fact, he had seen life infused into decaying substances and new living forms created. Although his belief has so far failed to receive acceptance, his observations have helped materially to found a completely new branch of science, bacteriology, which has not only extended man's knowledge of the lowest known forms of life, but has been the means of establishing a new system of medicine and therapeutics.

Another example presents a rather delicate subject for discussion. Certain investigators, of what are known as psychological or metaphysical phenomena, believe that they have

added a new power to those already possessed by mankind. They call it "telepathy," or the faculty of intercommunication between individuals at a distance from each other without the agency of any hitherto known sense or medium; and that is the least improbable of their supposed phenomena. Their new "science" has coupled with it an abstruse phraseology which leads the memory back to the "phlegm" and "phlogiston" of earlier ages, and it may be said without fear of contradiction that the majority of scientific men, and indeed that Society generally, is incredulous regarding their theories and observations. The strangest feature of the new movement (if it can be called new) is that it is supported by a few men of high scientific attainments, although their reputed psychological experiments clash with their own knowledge and beliefs in physical matters. In fact there appear to be combined in one and the same individual the highest reasoning faculties and great scientific research, with beliefs utterly at variance with fact and common sense. Whatever may be the outcome of these inquiries in the sense intended by this class of psychologists, it seems probable

that there may be hereafter evolved from them truths of great value to mankind; truths which may increase man's knowledge of the relations of mind and matter, or even throw new light on the mystery of life.

But now we must return to the regions of hard fact, and prosecute our inquiries in regard to the inventions and discoveries which have raised man to his present stage of knowledge and civilization.

XIII

MAN'S MENTAL PROGRESS (II)

INVENTION AND DISCOVERY—THE TELESCOPE—SPECTROSCOPE—MICROSCOPE—THEIR REVELATIONS

WE have already spoken of the mariner's compass and the sextant as having greatly helped navigators in extending geographical knowledge, but a few more words concerning those instruments may be interesting. The Chinese claim to have known a form of mariner's compass as far back as 2360 B.C. which showed the direction of the South Pole, and they say that it was recorded in the fifth century A.D., that vessels were directed to the south by a magnetic needle. The Arabs also were acquainted with the use of the instrument, but it was not until the fourteenth century that a compass is referred to with a card showing the thirty-two points as at present. Its greatest perfection was attained by Sir William Thompson in 1876. The quadrant

was a more recent invention by Hadley, and for a long time contrivances known as the "cross-staff" and the astrolabe were used for ascertaining the altitude of the sun or stars. Captain Campbell it was who constructed the sextant, which is still used in navigation and for measurements on land. Useful as those instruments and improved chronometers were for increasing our geographical knowledge, another invention, the telescope, opened out to man's gaze a new universe by bringing the distant worlds within the range of his observation, whilst the microscope exposed to view myriads of minute forms of life in the animal and plant world of whose existence he had previously been ignorant.

It is difficult to say when the telescope was invented (of the lens we shall speak presently), for the person who first looked through two lenses, the one convex and the other concave, and noticed their magnifying properties may be said to have used the first telescope. An instrument of the kind was mentioned as far back as the thirteenth century by Roger Bacon, who was imprisoned as a heretic for his scientific knowledge; and three centuries

afterwards an Italian, Della Porta, and Digges an Englishman were said to have seen distant objects with the aid of lenses. The actual invention of the telescope, however, has been attributed to three Dutchmen, each of whom had his partisans, namely Jansen, Lippershey and Metius; but it was Galileo who, hearing of Jansen's invention, first constructed a suitable telescope and gave it practical application. Those events all occurred in the beginning of the seventeenth century, and Galileo (1564–1642), with the use of his instrument, managed to make some of his most valuable discoveries, including Saturn's ring, the Satellites of Jupiter, the phenomena of sun spots, and the nature of the Milky Way. From his day to the present improvements have been effected in the construction of the telescope for terrestrial and celestial observation, by experts on both sides of the Atlantic ; but although some fine instruments have been constructed and mounted in Europe, the palm in this respect must be yielded to the United States. The refracting telescopes at Lick and Yerkes observatories and the reflector at Harvard are considered the most powerful now in use. It was with the first named, of

which the defining powers are remarkable, that the close Satellite of Jupiter was discovered, and with both other Satellites of that planet; but it is expected that an instrument now being constructed for the Observatory at Mount Wilson, Pasadena, U.S.A., will throw all three into the shade, and it is to be hoped that with its aid some interesting astronomical problems, still in debate, may be solved.

One circumstance in connexion with the use of the telescope has the closest bearing upon our inquiry concerning the future of mankind. It is the possibility of other worlds than ours being inhabited. We cannot think that any person who supposes our little globe to be the only one that carries living beings on its surface is possessed of high intelligence, yet even in our day there are many to be met with who hold such an opinion. When, however, the telescope was brought to bear on the planet Mars, an active controversy sprang up which still continues amongst astronomers and biologists as to its fitness for sustaining animal, if not human life. The discovery of the "polar snows"; of the so-called "canals" of Schiaparelli,

single or double lines extending thousands of miles over its surface, and other observations leave little doubt of the presence of water and air on the planet, and all point to the conditions which would render the existence of animal life possible; and with constantly improving instruments such as those referred to above, as well as by the aid of the spectroscope (of which we shall speak presently), it is probable that before long some definite conclusions will be arrived at. Another circumstance, a more remote possibility, however, is the discovery of a means of intercommunication between the earth and Mars, and that there is, or rather was, at least one person sanguine enough to anticipate such an event and to back up his opinion was shown by a Frenchman who left a large sum of money to the first person who should devise means of communication between our world and any of the other planets. Looking at recent discoveries in connexion with light, electricity, and the luminiferous æther, there is nothing absurd in such an anticipation, nor is it necessary to suppose that such an event must be postponed to an indefinite future.

We have spoken of the combined telescope and spectroscope in connexion with Martian research, but no less important have been the results of that combination in determining the composition of the heavenly bodies from our own sun to fixed stars, comets and nebulæ. It is of course unnecessary to explain to our readers by what means it has been possible to identify the same substances in the heavenly bodies as those found on the earth's surface, but it may be mentioned that the dark lines of the solar spectrum were first observed by Wollaston about 1802. To Frauenhofer (1787–1826), a Bavarian, however, the world is indebted for spectroscopy being put upon a permanent basis ; for its being constituted an exact science. He studied the solar spectrum assiduously, and constructed diagrams showing between five hundred and fifty and six hundred dark lines, called after him Frauenhofer's lines, the most prominent being **D**, occupying the same position on the scale as the yellow line from sodium. Since then the combined instruments have revealed or determined the character of celestial objects which presented phenomena previously inexplicable, or as in the case of

the solar prominences, which could only be observed for a very brief time during an eclipse. Many names might be associated with those discoveries and observations, but we are certain that few will differ from us when we give precedence to those of Lockyer and Huggins. The spectroscope, which received improvements at the hands of Kirchoff and Bunsen and others, has been applied to many other uses, notably, in its connexion with the microscope, for investigating the nature of blood corpuscles. In criminal cases it has been successfully employed to distinguish between human blood and that of the lower animals.

And this leads us to the microscope itself, concerning which a few words must be added. The existence of the magnifying lens may be traced to a very early period, for one made of crystal was discovered by Layard in the ruins of the palace of Nimrod ; [1] and subsequently the use of glass globes filled with water was not uncommon for magnifying objects. The invention of the microscope

[1] For this and other chronological information we are much indebted to the *Encyclopædia Britannica*.

itself has been attributed to Jansen of Middleburg about the year 1590, and in this connexion it may be mentioned that one of the most industrious and successful experimenters and observers was also a Dutchman, Swammerdam. As in the case of the telescope great improvements have been made from time to time in the construction of the microscope, one of the most important being the binocular. It is only fair to name in this connexion the opticians Schieck of Berlin and Ross of London. The defining power of the instrument has been enormously increased, and there is hardly a branch of physical science that has not profited by its revelations. Its magnifying powers have helped the geologist and mineralogist in their studies of the earth's strata; the zoologist, botanist and biologist in those of plants and animals; the anatomist and physiologist in their investigations of human and animal organs and tissues, and the medical and surgical expert in tracing the causes and observing the symptoms of disease. Indeed, had it not been for the discovery of the microscope the progress of scientific research would have been greatly retarded, and much that has been revealed

to mankind through its agency might have remained unknown for all time.

Whilst we are speaking of the services rendered to applied science by the inventions and discoveries named, at least a passing notice should be given to others of a less popular kind, namely such as are used in medicine and surgery ; for it must be remembered that not only the physical but the mental attributes of man largely depend upon the state of his bodily and mental health ; more especially upon those organs upon which the exercise of the senses, hearing, seeing (and even thought itself) are dependent. The discoveries of the circulation of the blood, of inoculation and vaccination, of anæsthetics and antiseptics, are commonplaces known to every schoolboy, but not so well understood are the stethoscope, the laryngoscope, the X-rays, and the various appliances for examining the internal organs and tissues, or for facilitating dangerous operations. The treatment of lunacy, idiotcy and nervous affections, too, has undergone great improvement from the time when the insane were believed to be possessed by demons which must be expelled by sorcery and incantation, or were treated

with incredible brutality, to our day when mental aberration is studied scientifically and the lot of the sufferers from a disease, often inherited and worse than death, is mitigated and made more endurable through kind and experienced ministrations of skilled physicians and nurses; and when they are placed under the special protection of the State.

Indeed it appears to us quite a legitimate criticism to say that nothing has marked the stages of man's mental progress so conspicuously as the history of insanity with its concomitant errors, mysteries, fables and superstition; for it has represented in a figurative sense a transition in man's nature itself from ignorance to knowledge.

XIV

MAN'S MENTAL PROGRESS (*concluded*)

Electricity and Its Application—Meteorology—Seismology

Can there be any possible connexion between the act of rubbing a piece of amber and causing it to attract or repel a feather, and of sitting in your chair in London and speaking in a perfectly distinguishable voice to a friend in Paris, telling him to buy *rentes* for you ? or, when you arrive a couple of hundred miles from Queenstown on your homeward voyage from America, directing the manager of a Liverpool hotel, by wireless telegraphy, to send a cab at a specified hour to meet you at Riverside station ? Yet the second and third are the corollaries of the first ; and whether or not the facts have been put in correctly technical language, they faithfully represent man's progress in electrical science extending over a period of thousands of years.

The name of the man who discovered the electro-magnetic powers of amber when it is rubbed is unknown, but several of the ancient writers were acquainted with the fact, amongst them Thales, Theophrastus (321 B.C.), and Pliny (A.D. 70). Gradually it became known that amber was not the only hard substance which possessed electro-magnetic properties, and in more recent times Dr. Gilbert (1540-1603) catalogued a considerable number. Then came the electrical machine; the Leyden jar for storing electricity, and the application of the subtle force in several branches of physical science and the industrial arts, notably, in more recent times, the depositing of the nobler metals, gold and silver, upon baser ones, such as copper or zinc. It was about the middle of the eighteenth century that a wire was first used for the passage of electricity, and a Frenchman, Lomond, is credited with being the inventor or discoverer of the process. The discoveries or improvements of Galvani, Volta, Oersted, Laplace, Ampère and Steinheil all aided in the growth and development of the science until Morse (1838) first conceived its application to telegraphy. Next followed Cooke and Wheat-

stone, one of whom the writer heard lecture in the Hull Mechanics' Institute about the year 1840. He illustrated the process of telegraphing with a battery placed on the table before him and a poised needle in an adjoining room connected with the battery by a copper wire. Then he brought the suspended needle into the lecture hall and made it vibrate in the presence of the audience. At that time, however, the public regarded the invention as an interesting toy. But electrician after electrician improved the electric telegraph until, for the present at least, it has culminated in the inventions and work of Edison in the United States, and Marconi the Italian discoverer and successful operator by wireless telegraphy ; whilst so far as vocal communication by telephone is concerned, the name of Bell, a Scotchman, who resided in Massachussetts, will be permanently associated.

But as the reader well knows those are not the only uses to which electricity has been applied. Locomotion, as well as many branches of industry, have profited by its application. Horsed conveyances, locomotives, and, so far to a small extent, steam

propelled vessels have given place to electrical traction; and in many instances dynamos have displaced stationary steam engines. As an illuminating and heating agent it has largely superseded coal and gas; the telegraph and telephone are slowly but surely usurping the functions of the letter post, and even the aeroplane must depend for its permanent adoption on the successful application of electricity. Indeed with its aid man is fast conquering and compelling all nature's forces. Already he has chained the cataract of Niagara and other lesser falls, and used their powers in the industrial arts; has pierced mountains; worked and lighted mines and underground passages; and some day probably the electrical energy of the clouds and atmosphere which he still so greatly dreads will have to submit to his rule and become one of the genii which he can invoke in his service.

So the discovery, thousands of years ago, probably by accident, that a simple substance like amber could be made by friction the means of calling into action, or, as it was long supposed, of generating an unknown physical force, utilized and developed by the intelligence and inventive faculties of man, has

converted, or been converted by almost every other known physical force, and has reformed or remodelled many of the most useful arts and methods of modern civilization.

And now, before dismissing the subject of applied science which affords an unlimited field of study, it is necessary to say a few words concerning two of its branches of which man's knowledge is recent and imperfect as compared with those to which reference has been made, namely Meteorology and Seismology. As for the former, confining ourselves to atmospheric disturbances, we may say that the movements of the wind must have been a perplexing problem to the ancients, especially to the Hebrews. "The wind that passeth away and comes not again." [1] "The wind goeth towards the South and turneth about to the North; it turneth about continually on its course, and the wind returneth again to its circuits." [2] "The wind bloweth where it listeth, and thou hearest the voice thereof but knowest not whence it cometh and whither it goeth." [3] Later on when men

[1] Psalm lxxviii. 39. [2] Ecclesiastes i. 6.
[3] John iii. 8.

traversed the distant seas they formed some notions of "whence it cometh and whither it goeth," and experience taught them something of cyclones and typhoons, but it is only of late years that the study of the wind has become an exact science. Aided by the anemometers of Robinson of Armagh and Osler of Birmingham, its velocity has been measured; and with simultaneous records at various observatories it has been possible to follow the course of storms on land, and in an imperfect way to predict their advent in any particular region.[1]

With earthquakes, although there, too, the beginnings of scientific observations have been made with the seismometer to which practical utility was given by Professor John Milne, the difficulties are greater, and so far

[1] In the year 1879 or 1880 the author spent some time in Washington, where he was the guest of General Meyer, the head of the signal department. He was told by him that the department never attempted to follow a storm over the ocean as it was often dissipated there, and was shown a perfect system of tracing the course of a storm on land. General Meyer was called "Old Probabilities," as his predictions always began "The probability is," and it was humorously said that the storm scenter (centre) was always under his hat!

disturbances in the earth's crust—seismic waves—have been followed from their centre to places far apart; added knowledge of seismic phenomena is sure to follow, although some experts have doubted the possibility of predicting earthquakes with the same precision as approaching storms. In relation to this subject it may be mentioned that honest sceptics, who would hesitate to accuse the Almighty of cruelty or indifference to human life, in the case of multitudes who have been overwhelmed by earthquakes, have yet wondered with apparent reason why the earth was peopled before it was everywhere completely fitted for human habitation. It would be a mistake to deny that the subject is one of some perplexity, but it must be remembered that the same argument might have been, and in some cases might still be, used in relation to floods, storms, plagues, famines and other disasters over which Man appeared to have no control; but that time and increasing knowledge and experience have taught him how to free himself from the fatal effects of such catastrophes, and that in many cases they are the results of carelessness or ignorance. With

these few remarks we must now draw our reflections on these subjects to a close and turn our attention to other phases of Man's nature and history.

PART III

XV

MAN'S SOCIAL AND POLITICAL PROGRESS (I)

Social and Physical Continuity—Ancient and Modern Examples—Despotism and Freedom—Political Progress To-day

Our readers must not suppose that because we have selected only a small number of examples of pure and applied science and discovery, and have coupled with them a few prominent names, the same principle of progress has not been applicable to many more equally important ones, but it would have been impossible within the limits of an essay to furnish further illustrations. That is amply shewn by the very names that crowd upon the memory as we glance over the history of the past; from Archimedes in ancient times down to Watt, Stephenson, Brunel, Nasmyth, Smeaton, Bell, Napier and others in the age of steam; to Hargreaves, Ark-

wright, Crompton in relation to textiles; Newton, Jenner, Cavendish, Priestley, Liebig, Davy, Faraday, Röntgen, Lamarck, Darwin, Pasteur and a host of others in various branches of science; and not least to Guttenberg, Caxton, Walter and his compeers who disseminated the knowledge acquired by the princes and pioneers of scientific research.

But now we must endeavour with as much discrimination and as little tedium to the reader as possible, to select a few facts which demonstrate the steady, though not always unbroken, advances that have been made in man's social and political life. On the former it is not necessary to dwell at any length, for we have already referred to the vices which have retarded progress, and the customs, virtues and some of the mental attainments which have been factors in the formation of modern Society. We think it was Huxley who said that reasoning from analogy is dangerous, but, notwithstanding the risk, we intend to make the venture in this instance, for we think that the most convenient way to deal with both phases of the subject, social and political, will be by a comparison with

the operation of certain forces of nature as they have been recently presented to the human understanding.

Thanks to the researches of such men as Tyndall, Joule, Grove and others, two facts have been clearly demonstrated; first that no form of matter and no force is ever completely annihilated; that is known as the conservation of force or energy; and secondly, that the forces are convertible; motion into heat and *vice versa*, or motion into electro-magnetism and the converse; that is known as the correlation of the physical forces, whilst Dr. W. B. Carpenter and others have showed that similar correlations exist between the physical and vital forces.

Now it will be found that in political and social history the same rules and the same phenomena obtain, and that no social or political movement is extinguished. However, apparently, some upward movement, some development is checked and for a time disappears from history, it is sure to crop up again, probably in a new shape; it may be modified or changed, but it will be found on examination to illustrate the conservation of political or social energy. Take, for example,

the action of philanthropy. It is unnecessary to single out any particular nationality or religious faith, either of ancient or modern times, in seeking illustrations; sacred history and the lives of holy men in all ages have furnished them. Whilst Europe was passing through what are called the dark ages, and was given up to plunder and desolation by savage immigrant tribes, Goths, Huns, Lombards, Avari, Bulgari, Slaves, Ungri, Tartars following in each other's wake, and apparently blotting out all civilization, the monasteries were the depositories not of learning alone, but of love and pity for poverty and distress, and when the wave of barbarism had spent itself and civilization once more raised its head, philanthropy reappeared in new forms, but unchanged in principle. To-day hospitals and old age pensions are the organized survivals of the privileges of the gleaner and the benevolence of the good Samaritan, whose very designation is still applied to the work of charity; and as the prophet of old gave his blessing in God's name to him who "pleaded the cause of the poor and needy," so that blessing has descended upon the founder of hospitals, the honorary surgeon, and the

philanthropic worker of every rank, creed, and station in life. This is the conservation of the energy of benevolence, and hundreds of germane examples might be cited to show its close analogy to the physical law of conservation of force.

Let us now turn to the subject of the government of nations. First we have the patriarch; priest and ruler in one. To-day we have as survivals the Czar of Russia, the King, the head of the Anglican Church, and the monarchs of other State Churches. As the desire for conquest increased, the ruler was chosen from amongst the bravest and most accomplished soldiers of the nation. Often, as in the case of uncivilized tribes to-day, strength alone was the qualification. Those qualities are now, however, rarely considered necessary in the ruler, and in most cases the forms only survive; in fact, the military achievements of many crowned heads are now confined to the wearing of uniform and military orders, the inspection of the guard of honour, and an occasional review. Still even in stern fact the old qualifications survive; Napoleon, like Attila, the scourge of Europe, and the old Kaiser and his sons,

defenders of their fatherland, are modern illustrations of the ancient principle.

But there has been a far more important phase of political progress than the maintenance of the régime of kings and generals, the former of whom are not always blessed with the high degree of intelligence which should fit them for their rank and station; we mean the progress from servitude to liberty; from despotism to constitutional government; from aristocracy, oligarchy, or theocracy to democratic rule. That form of government, it is true, is to be met with in other periods of the world's history, but it has been within the last century that the movement has taken a new turn and has extended rapidly, so that even despots have been compelled to bow before the *vox populi*. Shahs and Czars and Sultans, who previously knew no law but their own, have been obliged to recognize the stronger will of their "subjects," or to resign their sceptres, and whatever may be in the meantime the shifts and postponements resorted to, or the temporary reaction, there is no doubt that the ultimate rule for all nations will be "government of the people by the people and for the people." That

will not, however, mean the suppression of statesmanship and oratory, nor of any form of individual talent, excellence or enterprise; and this consideration leads us on to the further inquiry, What are the social and political conditions to-day which are likely to influence the future of mankind ?

Before, however, we turn our attention in that direction a few words may be said concerning the changes for the better that have of late taken place in political activity, more especially in our own country. Formerly aristocratic birth and prestige, patronage, bribery and even many forms of violence were the chief factors in deciding political issues; but although there is still much need of reform, right is taking the place of might, and equity that of privilege. Until recently statesmen, like poets, were born, not made; but now the County Court lawyer may become Chancellor of the Exchequer, and the journeyman engineer a Cabinet Minister. The last upward movement which has been and is still the terror of holders of vested rights and of hereditary legislators, has been the accession to all governing bodies, from the district Council to the high Court of Parlia-

ment of the direct representation of labour. That is, however, only a phase of self-government, which, as we have already said, is gradually extending over the whole civilized world, and is proving itself to be an important factor in man's progress.

XVI

MAN'S SOCIAL AND POLITICAL PROGRESS (II)

Anarchism—Socialism—Individualism

There are at present, and have been for some time past, three social and political sects agitating society, respectively known as Anarchists, Socialists, and, in a lesser degree, those whose doctrines have hitherto prevailed everywhere, the Individualists. We will endeavour to define the terms as they are generally understood. Anarchism means literally no rule; popularly it means the subversion of all government, law, and order; but for the Anarchists themselves it has a different signification, which will be best understood by inquiring who and what are Anarchists?

In Russia they are called nihilists, and their movement is a revolt against despotism. When they are suspected, imprisonment; when convicted, death is their fate; more

on that head presently. In other European countries, especially in Switzerland and Great Britain, as well as in the United States, many of the Anarchists are refugees from Russia and other countries ruled by despotism, and those hold various views; and, lastly, others are outcasts from Society, criminals or worthless men often with fancied grievances. The methods of the extreme Anarchists are usually drastic; their pet remedy for despotism is the assassination of rulers without regard to age, sex or even form of government. Czars, Emperors and Empresses, Kings and Queens, Presidents of Republics or Ministers of State are equally obnoxious to them, and fit objects for bomb or revolver. It was said formerly of the Government of Russia that it was despotism tempered by assassination; the outlook there is, however, a little better at present, and it is to be hoped that the nation is passing through the revolutionary experiences of France, or of our own country under the Stuarts. Some persons may say that the preceding definitions are exaggerated; at least, it is quite correct to say that terrorism is the Anarchist's proposed remedy for reform. Many Anarchists, it is but fair to say, protest

that they hold no such extreme views, and that their sole aim is to regenerate Society without resorting to assassination or to any kind of violence; but no one will deny that anarchism, even in its mildest form, is only iconoclastic.

Socialism, as popularly understood, means the transference of wealth from the rich to the poor, or at least a more equal distribution of property. It means the abolition of private ownership, and the dispossession of capital, or rather the discontinuance of the existence of capitalists as the term is at present understood. There is much truth in this definition, but as it may be objected to we will substitute another, namely, the adoption of the principle of association in place of individual competition. This change it is proposed to extend to every branch of human industry, all of which are to be placed under the supervision of the State; in fact, individual ownership is to give place to State ownership of property. If a Socialist is asked what are the principles that actuate him, he will say altruism, and the greatest happiness for the greatest number. This we do not for a moment doubt, but it will be seen presently

that the Socialists have no monopoly of such virtuous aims.

Amongst Socialists, as amongst Anarchists, we find the advocacy of various modes of action, but never any that is criminal or physically violent. The extreme Communist or Collectivist would proceed (he would say, quite lawfully) to bring about the equal division of wealth amongst the masses. A good deal of ridicule has been cast upon such proposals, and many anecdotes, real or imaginary, have been related to illustrate their absurdity. The most pointedly humorous is perhaps that of an imaginary interview between one of the Rothschilds and a Collectivist in Paris. "Suppose," says the banker, "I were to consent to part with half my property to you, in six months' time you would have run through your share, and probably I should have added a little to mine. What then about your Communism? hey!" "Eh, bien," says the Socialist, "alors nous partageons encore." ("Very well, then we should divide again"). No doubt our Socialist readers will say that is a travesty of the actual facts; but it must be remembered we are speaking of extremists, and the misfortune is that there are many

such, and that their aim is plunder masquerading as Socialism. We are speaking from long observation and experience, but do not wish for a moment to deny that there is much that is honest and praiseworthy in Socialism as understood by its advocates, as will be seen from the sequel.

Parenthetically it may be mentioned that most of the modern experiments to establish Communism by the isolation of small communities have proved failures, especially where individuals have set such schemes on foot, themselves undertaking the control of the community; as, for example, that of Robert Owen, and others might be cited both at home and abroad. What they have succeeded in proving is that frequently every member of such a community considers himself qualified to be its guide and director, to be as good as his neighbour—only better. Strangely enough bona fide communism is sometimes met with in the most despotic realms, as, for instance, in the Russian Mir or village community which had its analogue in various lands and periods of history.

Whatever may be the aims of men calling themselves Collectivists, Socialists, Fabians

or what not, no one can ignore the fact that the principle of State Socialism is making rapid progress in spite of the terror-stricken cries of monopolists and reactionaries who scent "Socialism" in every form of progress which interferes with their selfish interests. The State has taken, with advantage to the public, the conveyance of letters and parcels and telegrams, and will soon retain the proprietorship of telephones. In Germany and elsewhere, where Socialism in any form is a *bête noir*, it owns the railways as well, and it would no doubt do so in this country were it not for the enormous outlay that the purchase of the railways would entail. Unless aerial navigation interferes, that is almost sure to follow, but the air is no more purchasable than the ocean as a highway. Again the minor departments of the State, the local authorities, have become traders in gas, water, electric lighting, tramways, and they even provide clothing for their servants; and every day new acquisitions are made by them for the public benefit. Private Socialism (if we may be permitted to use what seems a contradiction) is making rapid strides in the form of co-operative distribution and production.

Mines, quarries, cotton mills and factories of all kinds, of which private individuals were formerly the sole proprietors, are now run by co-operative societies largely composed of the working classes. In short, State Socialism within limits and co-operation amongst the masses are the order of the day, and, judiciously undertaken, such movements are amongst the most effective for furthering human progress.

But it by no means follows that Individualism is to be extinguished; on the contrary any form of Socialism with such an unnatural aim would, we venture to think, prove a failure. We know that there are Socialists who maintain that their scheme would leave free scope for every phase of individual enterprise and ambition, but that such efforts would be made for the benefit of the whole community, that they would be altruistic instead of what they are at present, selfish; that would, however, presuppose an ideal state of Society not yet within reasonable prospect.

What we have to consider first is individualism in its literal signification—selfishness, for in a vast number of cases that is what it really means. Self-aggrandizement; the ac-

cumulation and hoarding of wealth without regard to the welfare of the community, if not to the exclusion of all interest on the part of the possessor in useful and praiseworthy aims and objects. Often it is unbridled ambition; the desire, unscrupulously gratified, to pose as the wealthiest or most prominent member of some particular trade or industry. Those are what may be called the unaimiable phases of individualism. But many of its methods are perfectly legitimate and its aims wise and beneficent. As we have already said in a preceding chapter, no one can object to the lawful accumulation and possession of wealth if it is used for the public benefit or to assist less highly favoured members of Society. It encourages the exercise of brain power and the spirit of invention and discovery which would often languish for want of pecuniary aid from generous patrons, and it certainly helps to foster art, science and literature. Whatever may be the altruistic claims of Socialists, it must be conceded that hitherto the highest aspirations of the human race have centred in individuals rather than in societies whose function has usually been to carry out their initiative.

Last of all, the noblest aim of the individual is to lay a foundation for the well-being and happiness of his posterity, not only in the limited sense of relationship, but rather by the employment of his wealth, his intellectual powers or his social status, to pave the way for his successors to carry on the work of progress and enlightenment.

When we come to consider man's future, the student will be able to judge from the present condition of the nations what sanction appears to be given by Providence to such movements as have here been imperfectly outlined.

XVII

MAN'S SOCIAL AND POLITICAL PROGRESS (*concluded*)

Literature—The Press

The literature of our day presents no such advances from earlier times as we find in other phases of human intelligence, but looking at one branch in which we are most nearly interested, namely the Press, it would be inexpedient to leave it unnoticed. A little time back England, France and Germany produced writers whose productions compare favourably with those of Greece and Rome; Gibbon, Scott, Byron, Voltaire, Moliere, Goethe and Schiller; and if we go back to the time of Dante, Milton and Shakespeare there are not a few who will say that those writers excelled them. In secular composition there is, however, a decided lull, if not a reaction, and for some time past men's minds have been diverted from purely literary pursuits to

scientific research. As regards sacred literature, it is only necessary to read the paraphrases of the Psalms in our modern hymn-books to see that the poetic genius of the ancient Hebrews ranked higher than that of their imitators in our day.

But is that any evidence of the extinction of learning? Certainly not; it is only another proof of the conservation of mental energy, which is now directed into channels more consonant with modern life and custom. At present the Press in its various departments largely represents modern literature. The best pens and the highest intelligence are enlisted in its ranks, and there is no subject with which it does not deal more or less efficiently; the platform, the pulpit, the commercial and social aspects of the community all coming within its purview. But even in that respect literature has suffered, for owing to the changes in the ownership of newspapers less attention is now paid to literary excellence, and a good deal of the talent engaged in their conduct is diverted to purely party and trade interests (we mean the trade interests of the proprietors of the Press itself), which was before devoted to the general wel-

fare. Still "the fourth estate" is a modern form of government, for it influences rulers, more or less at the behest of its readers, each section of the Press representing the views of some social or political party. That applies to all countries in which the expression of public opinion is allowed, and inasmuch as one despotic government after another finds itself compelled to recognize the liberty of the Press, it makes in the long run—for it has many grave defects—for the progress of freedom and enlightenment.

But the Press has one advantage over all other forms of literature; it is the unconscious mirror of man's condition in the present, as historical records of every kind make and keep us acquainted with his past; and it will, moreover, constitute the most important of all works of reference for the historian of the future. Imperfect as were the newspapers of the eighteenth century, we already find them quoted in works which bear upon the events and customs of that period. In the columns of the Press we see every man and every body of men as they exist, not as they are pictured by the writer of history or fiction. We hear the eloquence of the preacher, of the

statesman, the orator, and we may follow their actions as well as note their professions. The annals of vice and crime reveal the dark side as those of virtue and philanthropy do the bright side of human nature. The man who takes up his morning journal to ascertain what concerns his own business interests has his attention drawn to the doings of men and women engaged in every other department of modern life. He may read of sermons and lectures and educational efforts of every kind; of invention and discovery; of all the movements which make for law and order at home, and the progress of arts, civilization and liberty over the whole world. If so inclined he may learn something concerning our relations with the heavenly bodies, or the speculations and conclusions of psychologists concerning his own mental nature. Indeed, if his mind has not been dwarfed by too great devotion to his own small affairs and selfish interests, he may in one short hour study life in all its phases, and fit himself to take an active part in the education and happiness of his fellow-creatures.

XVIII

MAN'S RELIGIOUS PROGRESS

As it was stated in our introductory chapter ("On the Presence of God in the Universe"), this is not a theological treatise, but certainly a retrospect of man's advance from barbarism to comparative civilization would be very imperfect if, after devoting so many pages to his material and moral progress, we failed to take into account the improvement in his religious thought and knowledge. This would be a most difficult task if we were called upon to criticize the divergent views of theologians and sectaries of all ages concerning the origin and growth of the various religions of the world, especially if we had to take into consideration the myths and legends which cluster around most of them; but that is unnecessary for our purpose.

Much that follows is no doubt well known to almost all our readers. It is by no means unquestionable that man's first conception

of the Deity was purely monotheistic, for even the Hebrews, whose religion is usually so regarded, worshipped other gods than their own, and their lawgivers were obliged from time to time to recall them to the service of their national deity, Jahve. The disclosures, however, of the sacred books of the East have led to one definite conclusion, a conclusion which is as indisputable to-day as it was when the Vedas were composed, namely that throughout all ages men have professed a belief in one Supreme Power in the Universe. Sometimes he has been One with several (mostly three) designations; as, for example, Indra, Varuna, Agni; Brahma, Vishnu, Siva; Buddha, Samgha, Dharma; Ahura Mazda (Ormuzd) and Ahrimanes; the Father, Son, and Holy Ghost; in the Vedic, Brahminical, Buddhist, Persian and Christian religions respectively; but as the Veda has it: "That which is One the wise call it in divers manners." Those nominal designations have, however, usually become distinctive of individual gods who have been separately worshipped; trinitarianism has lapsed into tritheism, with the masses of worshippers. The religion of the modern Jews, Moham-

medans, and Unitarian Christians is purely monotheistic, although amongst the last named trinitarian formulæ are often used in worship—and explained away by those who employ them.

For our purpose, however, it suffices to say that mankind has always believed in a Supreme Being, the Maker and Ruler of the Universe and the Arbiter and Controller of man's destinies here and hereafter, and what we have to consider in conformity with our general plan is whether, and in what manner, the human conception of Him has progressed in regard to His nature and His dealings with our race. Although we meet with innumerable expressions in the sacred writings and elsewhere which attribute to the Deity a higher nature than our own, man's conceptions of Him have always been more or less anthropomorphic. Of the expression, "God is a spirit," we shall speak presently. It is hardly necessary to say that there has been a great step in advance from the carnal deities of the ancient Greeks and Romans to the Father and Ruler of mankind and His orthodox equal, "the man Christ Jesus"; but the masses of worshippers always con-

ceive of Him as a man, however exalted His nature may be above theirs; to them He is "the Ancient of Days," and He is always associated in worship with one or more of His human creations who have lived in this world and have ascended into Heaven, His dwelling-place. Before pressing this matter further, it is right to say that we are dealing with it in what may appear to be a controversial spirit, because we desire later on to say a few words concerning what we believe would be an advance in man's thoughts concerning God. But to return to our text.

In all ages God has been considered a man with human passions and attributes. He has been a God of war, favouring the arms first of one nation, then of another, each believing itself to be "His chosen people"; and when He has not favoured the belligerents who invoke His aid, but has allowed them to be defeated by their enemies, it has been as a punishment for their sins! To thinking men there is, perhaps, no evidence of the immaturity of the human race so striking and convincing as the irreverent creed that the allwise and all-loving Ruler of the Universe should approve of war; of manslaughter accom-

panied by plunder and all its other horrors; in fact, that He should have had attributed to Him the most barbarous of all man's practices. But so it is, and so, according to the views of whole ranks of men it will remain throughout all time. A silver lining, however, to the cloud which has so long obscured men's nobler faculties is to be seen in the recently organized movements in favour of peace, conciliation and arbitration amongst nations. As for the pacific protestations of crowned heads and professional soldiers who would have the world believe that immense armaments are only maintained for protective purposes, it is difficult to speak of them seriously. As well might we expect bankers to protest against the use of any circulating medium, and to recommend barter in place of cash payments and credit associations; or railway directors to pray for the prompt and successful adoption of aerial traffic!

Although the teachings of enlightened theologians have, however, failed to raise the popular mind above the old anthropomorphic conception of God, in other respects mankind has made distinct progress, both in religious thought and action. More than

one of the existing faiths was propagated by violence and persecution; the more recent, that of Mahomet by the scimitar, that of Christ by the sword and *auto da fé*. Not only, however, are such methods abhorrent to men's feelings and sense of justice in our day, but all the asperities of religion are being smoothed, and with some exceptions from which no creed is exempt, men of every faith are beginning to exercise that charity which is praised as the highest of all virtues. Indeed, the more intelligent exponents of theology are beginning to perceive that there must be an element of truth in every phase of faith, and that a comparison of the various beliefs of mankind is likely to be beneficial to religious progress.

But even assuming that in the course of time it may be possible to form a more correct estimate of God's action in the universe or of His dealings with our race, the question still remains: Can finite man form any conception of the nature of an infinite Being; a Being without form or limit, and who, although invisible, must be everywhere present. To say that "God is a spirit" and that He should be worshipped as such is only a negative

statement of His nature. It is quite correct, as far as it goes, for it was meant as a protest against anthropomorphism made by the great Teacher whom, nevertheless, men have worshipped, disobeying that, as they disobey many of His other commands. Indeed, it is no exaggeration to say that many Christians, more zealous than enlightened, have dethroned God and raised Christ into His place.[1]

It appears to us, and we say it with all deference, that to form anything like a rational conception of the Deity, men will have to discard many ideas which they now consider to be "gospel," without, however, sacrificing one iota of true religion. Max Müller, after a careful study of eastern faiths, came to the conclusion that the first revelation of God's existence was not miraculous, but that "it was the result of honest human effort which we can trace step by step in historical continuity." And so we believe that there will be no royal road to a further knowledge of His existence, but that the same "honest human effort" will have to be continued

[1] Only recently we heard a clergyman of the Church of England tell a large congregation that "there is only one God, and that is Christ."

with such aids as He places at man's disposal. If we are to believe that "nothing is hid that shall not be made manifest, nor anything secret that shall not be known and come to light," [1] surely there is no embargo put upon our reasoning faculties, even in the search after the nature of God Himself. At the same time, looking at the awful character of the subject, and the height of His thoughts above our thoughts, such an inquiry can only be pursued with great reverence and humility and with a complete absence of dogmatism. This last remark is rendered necessary by the irreverent familiarity with which some preachers are accustomed to speak of God and Heaven, and to usurp His authority in passing judgment upon their fellow-men, many of whom are infinitely more enlightened than themselves.

In this spirit, then, we shall have to direct our thoughts towards the realm of the infinite, but before doing so we must glance over what we have noted concerning man's past and present condition to ascertain whether any suggestions are deducible in regard to his future progress.

[1] Luke viii. 17; Mark iv. 22.

XIX

TO-DAY AND TO-MORROW (I)

Man's Past and Present—Résumé

Let us at once admit that if our attempt to venture upon a restricted forecast of man's future should prove a disappointment to the reader, the failure must be attributed to the author's incompetence, for there has perhaps never been an epoch in the world's history when so many data have presented themselves for a successful inquiry; and now to resume.

We have briefly outlined man's origin and material progress from the earliest known periods of history to our day, and when we come further to consider his present condition, we find that his prosperity, which was formerly limited either within narrow geographical boundaries or to a small section of Society, the privileged classes, has now spread more or less over the whole community. The

working man to-day (of course we speak of the vast majority) is better off than the nobleman of the feudal ages. He is free, is far better educated and more enlightened, and enjoys more of the material blessings and comforts of life than his noble predecessor, of whom he was the serf or vassal, but with whom he now sits side by side as a legislator. He not only co-operates with his fellow-labourers in his own country to improve his condition, but periodically meets those of other countries in conference, to discuss and remove obstacles to his material and political progress. The class above him, the middle class, has not in quite recent times developed so rapidly, for the simple reason that its rise has been going on for some centuries; nevertheless, its prosperity has become more widespread in every part of the world, whilst from its ranks there is springing up a new nobility, composed of men of wealth, plutocrats, as they are called, who frequently combine in their persons the enterprise of the trading adventurer with the culture of the well-born. A third class, not yet fully recognized, which is the nucleus of a still higher order of nobility, is the aristocracy of learning

and research, the Playfairs, the Kelvins, the Listers, the Brasseys, the Tennysons of the enlightened world. And where the hereditary nobility have learned to appreciate the fact that long descent is of no permanent advantage, unless it be associated with talent, business aptitude in the management of their affairs, and philanthropy, they too have improved in status. On the whole, however, it can hardly be said that the titled and land-owning section of the community has made much progress.

As regards man's moral status, we have found that his vices still obstruct the way of his social betterment, for in the lower ranks in some countries, and amongst the higher orders in others, intemperance in drink, sexual lust and gambling are still prominent; but notwithstanding those drawbacks, the contrary virtues are more and more generally encouraged, for education and organized associations are actively working to refine public morality, and to promote every form of virtue and philanthropy. On the whole, Society is better ordered than it has ever been in the past. Although experts in the profession of war still vie with one another in

devising new methods for the wanton destruction of human life and property, public opinion, especially amongst the labouring class, which suffers most and gains least by war, is growing more favourable to the pacific settlement of international quarrels and complications.

In regard, furthermore, to man's political progress, it must be admitted that he owes much to the ancients, whose wise laws have been handed down from age to age, and form the basis of good legislation in many lands at the present time. But if we look over past history and take note of the rise and fall of empires, and of the alternations of freedom and despotism to which nations have been subject, it becomes apparent that mankind has entered upon a new political era, where the aim of wise and disinterested politicians and legislators is to promote the greatest happiness for the greatest number. We have seen that however varied their proposed methods are to attain that end, all political parties are agreed upon the principle. The nations are being educated to govern themselves, and notwithstanding the sneers at "mobocracy," it is every day becoming more

and more certain that rulers and governments are made for the service and not for the exploitation of the people. So the fixed order of the day is that despotism must give place to constitutional government by whatever name it may be called, and men are becoming more free and equal in political life than they have ever been in times gone by.

And as for the growth generally of man's mental powers and their exercise in relation to industry, invention and discovery, it has of late been little short of the miraculous. If, a century since, even the most intelligent citizen had been told that by means of steam the Atlantic could be crossed in less than five days; that by means of electricity night might almost be turned into day; that a man sitting in his chair in Europe could *speak* through the air with his neighbour in America (for that is within practical accomplishment); that he could fly over the earth at the rate of sixty miles an hour, and could ascertain of what materials the stars are composed—he would have been deemed a lunatic or an impostor, and would have been treated accordingly. And yet those accomplished facts are far more remarkable than most of the fabu-

lous narratives to be met with in the sacred writings of all nations.

As for man's progress in religious, or perhaps, more correctly speaking, in theological knowledge, he appears to be still in the stage of childhood, for notwithstanding his already acquired and rapidly increasing acquaintance with the laws of Nature and of its Author, his religious instructors preach, and he believes in doctrines which are not only directly opposed to his experience of the facts of every-day life, but to the dictates of common sense. In this respect a great proportion of the human race still speaks as a child, understands as a child, and thinks as a child [1]; and to vary slightly a dictum of Huxley, man teaches his children to think, not as intelligent men think to-day but as they thought two thousand years ago. And with what results? Why, that men who have a smattering of knowledge see only the absurdities in popular beliefs, and become "secularists"; whilst thoughtful men, who are unwilling to incur odium, or to unsettle the minds of their neighbours who are happy in the old faiths, say little, but absent themselves from what

[1] 1 Corinthians. xiii. 11.

should be the most consoling and highly treasured of all men's privileges—public worship. Then we hear of empty churches which the orthodox attribute to the sinfulness of unbelief, or of such only as are frequented by emotional women or with congregations of both sexes attracted by ornate ceremonies. And, strangely enough (it may be merely a coincidence), just at a time when men are beginning to lose faith in the old theology, there seems to be a dearth of preachers who, by their learning and eloquence, could steer mankind through a period of doubt. Some there are sufficiently acute to detect the trend of religious belief, who are taking their less enlightened congregations gently over the rocky paths, and a few who openly proclaim their changed or changing views—and who suffer accordingly.

However, the leaven is gradually working, and the great principles of religion and morality, man's duty to God and to his fellow-men remain unimpaired, and there are tens and hundreds of thousands in every civilized land whose aim is to leave the world a little better and a little happier than they found it on their entrance into life.

XX

MAN'S PROBABLE FUTURE

MATERIAL—MORAL—INTELLECTUAL—POLITICAL

THE day of prophetic visions is past, and any forecast of man's future must be made by inductive reasoning. So considered, there is nothing to hinder us from believing that he will continue to make advances in intelligence and civilization for many centuries to come; but in what follows we must ask our readers to let us adopt the tone of "Old probabilities" and recommend caution in accepting conclusions, for nothing is more amusing than to compare the vaticinations of dogmatists in regard to the future. One alarmist predicts the failure of the coal supply within half a century, but before a decade has passed new fields are discovered which another expert pronounces to be inexhaustible. When some Cassandra (of the male sex, however) foretells the speedy exhaustion of the earth's food supply, a rival philosopher immediately proves

beyond cavil that there is sufficient nitrogenous nutriment in the atmosphere to feed the human race to all eternity. We shall soon need the return of Swift's philosophaster to find a compensating energy in cucumbers in case the sun gives out! There is no need for panic nor despondency. Innumerable proverbs tell us that God always gives His creatures meat in due season, and the intelligence which has turned the bed of the sea into arable land can also flood the desert and make it blossom as the rose. Where, now, the foot of man never treads and savage nature still holds sway, the sickle, or more probably the reaper and the mowing machine of the husbandman will one day echo the sounds of industry and plenty. The same enterprise which brings frozen meat from Australia and Argentina to Europe, and circulates every necessary and luxury of life over the habitable globe, can be trusted not only to feed mankind for centuries to come, but to draw closer the bonds of brotherhood between the nations. What is really to be feared is not penury nor insufficient means of existence, but excessive wealth and luxury which every student of history knows has

expedited the fall of empires. The great struggle between nations to-day is not which shall be the wisest and most highly respected, but which shall possess the largest trade and the greatest number of Colonial possessions, whilst comparative wealth is coming more and more to mean the comparative capacity to increase and maintain armaments and to carry international warfare to a successful issue. The hope is that the rise of the labouring classes who constitute the muscle and sinew of the nations, and who, as we have already said, are the victims of war, coupled with the intolerable burden entailed upon whole communities by the maintenance of great armaments, may prove the remedy for what might otherwise, for a considerable time, obstruct man's progress. Political foresight, also, seems at length to be awakening statesmen to the criminal folly of war, and we begin to hear of private negotiations for the reduction of armaments (which every nation is ready to recommend to its neighbour !) and the settlement of international disputes by reason and conciliation instead of by brute force. In this matter nations are only following the example of individuals, and this we

believe will be the ultimate issue, so that the energies which are now employed in the wilful destruction of human life will be directed to the further conquest of Nature and the utilization of her resources for promoting civilization and the happiness of mankind.

We have referred several times to Man's immorality in the past and present, and the reference above to increasing wealth has a direct bearing upon the question of his future character and destiny. Although it would be manifestly unfair to impute the whole blame to the male sex, yet there is no doubt that the "subjection of woman" and the evil influence and example of men have been the responsible factors in the prevalence of vice. The emancipation and elevation of women already promise to provide the remedy, for in both peace and war they have always been the chief sufferers from the unbridled indulgence of men's passions. Whoever watches the change that is taking place in all communities, in the East where the inferiority and subjection of the female sex has been the most marked, as well as among the more advanced nationalities of the West, cannot fail to arrive at the conclusion that it is oper-

ating for the betterment of the whole race. To put it concisely, at no distant period there will be two agencies, where hitherto there has been, under most circumstances, only one, that of the man, working independently as well as in co-operation to promote all aims and strengthen every effort for the reform and regeneration of the race. The advent of educated women into public life is an incalculable blessing to both sexes and to every nationality.

And what shall we say concerning man's future, as it regards his relation to his own dwelling-place, the Earth, and to other worlds than ours? That is a subject on which many living scientific observers could speak with far better authority than we can pretend to do, and one of the leading scientists of our day, Dr. J. J. Thomson, the President of the British Association, lately gave utterance to some expressions in relation to his own branch of science, the recent discoveries in physics, which may be appropriately applied to man's researches in every realm of nature. His words were these: "As we conquer peak after peak we see in front of us regions full of interest and beauty, but we do not see our

goal, we do not see the horizon. In the distance tower still higher peaks which yield to those who ascend them still higher prospects.'

That outlook of man's future in scientific research, expressed in such beautiful imagery, must be recognized and accepted not only by students of the infinitely minute, to which the speaker mainly applied them, but to the labours and discoveries of the astronomer who is every day learning more concerning the infinitely great and distant; to the researches, also, of the chemist and physicist who are concerned with the powers and resources of Nature; to the geologist and palæontologist whose knowledge of the earth's crust and of its silent records of the past is constantly seeking a deeper and wider range; to the archæologist and anthropologist for whose instruction the cloud is being lifted which has obscured the origin and growth of the human race, and to the medical practitioner whose functions are to prolong life and exterminate disease. And most wonderful of all, it is applicable to the heights which scheming and enterprising men are climbing in their efforts to subject the great forces of Nature, and enlist them in the service of mankind. There

is no limit to the area of man's explorations and adventures in the heavens above, in the earth beneath, and in the waters under the earth; and there can be no doubt that when the war fever abates, which has so long affected mankind, the grandest results will be attained solely for the advance of his divine intellect.

But should there be misgivings in the mind of any one as to the future progress and development of his intelligence, in fact to the continued civilization of the whole race, he has only to glance, however superficially, at the changes which are taking place in the political condition of the nations to-day. Beginning in the far east, Japan has at one mighty bound sprung up from oriental despotism to western culture and government; and China, after a sleep of thousands of years, is following suit. There are some people, indeed, who think that one day the yellow races will govern the world! Persia, and to the surprise of the apostles of the "bag and baggage" doctrine, even Turkey has discarded absolutism and adopted parliamentary rule. Russia, too, the civilizer of Central Asia, has assumed the semblance of constitutional

government, to be followed in due course by the reality. Of the future of Austria, it will be impossible to hazard any conjectures until her present ruler dies. Germany, from being a group of reactionary states, a bundle of loose sticks, has become a powerful united Empire, and its various nationalities are pressing onward in a promising career of industrial enterprise. She is doubtless still under military and bureaucratic rule, but popular government in the guise of " social democracy " has already secured a firm footing in her constitution. The smaller powers, Sweden, Norway, Denmark, Roumania, Bulgaria, Greece, Holland and Belgium, present no obstacles to material and political progress. Like Italy, all are more or less progressive ; and as for Spain and Portugal, which occupy an isolated corner in Europe, they, too, will no doubt in time work out their own salvation. And finally, in the republics of Switzerland, France, and—crossing the Atlantic—those of the United States and South America, every form of despotism is for ever banished and government has been established " by the people and for the people " alone.

In the British Commonwealth, there is at

the moment a movement towards "imperialism," which does not, however, mean despotism or autocracy, but simply a knitting together of the parts for the protection of the whole. This is supported and approved by the Colonies of Canada and Australia in self-defence; but when those colonies feel their feet, it is more than probable that they will become in fact, what they are already in principle, entirely self-governing nations. As for the Mother Country, notwithstanding the predictions of downfall and ruin by persons whose selfish interests are affected by any step in progress, everything points to long-continued prosperity, material, intellectual, and political. Her commerce, already the most widespread the world has ever known, is expanding year by year; her seats of learning are being multiplied in number and practical efficiency; the masses are becoming better educated; religious acrimony, though still too virulent, is abating; whilst the emancipation and growing power of the labouring classes is broadening the democratic foundations of the State. Wealth, too, is being more equally distributed, to the abatement and, it is to be hoped, the ultimate dis-

appearance of penury, with its attendant evils of immorality, crime and avoidable disease.

In all those changes for the better the most active agencies in every part of the civilized world have been education, railways, the telegraph and the periodical press, and none but the wilfully blind can fail to see in them the directing and controlling hand of the wise Ruler of nations, leading the human race on to its destined goal. These last remarks remind us that all man's possessions, whether material or intellectual, are of little advantage to him unless they enable him to fulfil his duty to God and to his neighbour, and in this connexion we propose to terminate our task, not at all in the sense of prophecy, with a few reflections on his probable Hereafter.

XXI

MAN'S HEREAFTER

As Conceived in the Past and Present

The difference between the pursuit of knowledge in metaphysics as applied to man's hereafter and in the physical sciences will be best understood by a further reference to the analogy of attempting to climb an eminence. In what may be called the terrestrial and astronomical sciences there has been little difficulty in tracing the upward path, for Man has been on his own ground, exercising his senses; but in metaphysics as just referred to, he sees the eminence "through a glass darkly," but the path is invisible and has still to be found. As a rule men have sought a royal road to Heaven and believe that they have found it in "revelation," or in schemes of salvation invented by priests and theologians. If, however, they had carefully studied the beliefs of the ages, they would have found

Max Müller's dictum concerning the knowledge of God's existence to be equally applicable to the search after a knowledge of Heaven, namely, that it would have to be arrived at through "good honest work"; in fact, they would have sought for the "grain of mustard seed," and not for the full-grown herb. In regard to the metaphysical problem, they are still upon the level plain, and before endeavouring to find the point at which the paths of exploration converge and the upward ascent may be begun, it behoves us to say a few words concerning the present state of metaphysical science generally, in its relation to our subject. Systematic Psychology is quite in its infancy, and for serious students and cool unbiassed observers it is clogged by superstition, credulity, and the fraudulent devices of charlatans by whom it is misnamed Spiritualism, thought-reading and what not. Faraday was not far wrong when, in his day, he said that of those who professed it, one half were rogues and the remainder dupes; but his judgment must now be modified, for although it still offers a fertile field for both descriptions of persons (women as well as men), there are many honest and disinterested

seekers after psychological truth, whose researches cannot fail to be useful in the future. Psychology, especially when it is allied to physiology, is now an established branch of science, and for our purpose two of its features, one dependent upon the other, deserve a passing notice.

Let us try to explain them popularly. Psychologists are endeavouring to trace the relations of the mind with the brain, and they divide themselves into two schools of thought. The one section propounds the "doctrine or hypothesis of psychological parallelism"; that is to say, that the mind and brain act independently, but in parallel directions, and in conformity with one another, but that they "never meet nor interact." The other school teaches that soul or mind and brain interact, and their view or belief is called "the hypothesis of psycho-physical interaction.[1] Both those propositions are purely hypothetical, and although it would be interesting to study them in their relation to known phenomena,

[1] W. McDougall. *Physiological Psychology*, Temple Primers, Dent, London, in which the reader will find an account of the two phases of belief, as far as they can be explained.

they are not sufficiently practical for our inquiry. The other prominent feature in the science is known as telepathy, or the intercommunication between persons, living or dead, without the intervention of any of the ordinary media, sight, hearing, clerical or other known means of communication; in fact, a kind of mental or spiritual wireless telegraphy. Every reader will be at once reminded of reputed events or experiments that have been described in support of the doctrine; probably some are either firm believers, or (as is often the case) they will have come to the conclusion that "there is something in it." By the vast majority of scientists, however, the doctrine is discredited. In any case, it would afford us little help in the solution of our problem, and we have referred to the distinctive views on the subject to show the reader that a certain body of scientific men are embarking on a systematic investigation of metaphysical or psychical phenomena. Of course the reader is aware that they have a serial (and serious) publication, and at least one well-established society for promoting psychical research.

In a sense, man has always had revelations

concerning his future state, based mainly upon the dictates of his conscience, and upon observed facts in relation to the dealings of the Almighty with the human race. Those have always told him that although rewards or punishment are usually meted out to well-and evil-doers in this world, there are innumerable instances where the latter escape punishment, and where the results of their guilt fall upon the innocent; also of virtue going unrewarded, and of men who proclaim the truth suffering life-long disgrace and misery. Wherefore, he reasons, God being just must necessarily reserve His complete judgments for life in a future state. Notwithstanding artificial schemes of Salvation, too, every man's conscience tells him as a stern reality that though his evil designs may be successfully carried out in this world, they must be atoned for hereafter. Another and more recent form of evidence in support of immortality, to which reference has already been made, is drawn from the study of the physical and vital forces, which teaches that whatever may be the relations of force and matter, neither is ever exterminated; and that if that be true of the lower conditions of existence, it is very

improbable that its higher phases should form the exception. On the contrary, the process of development in Nature, which is now an accepted axiom, is more than probably applicable to the mind, and therefore to the continued personality of man in after life. His conceptions of Heaven, too, however varied, and even in some cases absurd, must be taken into account in treating of his probable future. Just as he has pictured God in His own likeness, so he has portrayed his heaven as a desirable sequel to his earthly existence. The German had his Walhalla, an Elysium of Warriors; the heaven of the Greeks and Romans, or perhaps more correctly speaking, the abode of their Deities, was Olympus; the Mussulman is to be surrounded by his houris; the Indian to revel in his hunting grounds, all carnal and often very sensual abodes of bliss. Then we have the Buddhist Nirvana, and the Christian heaven where the wicked cease from troubling and the weary are at rest, suggestive sometimes of the sleep of the wearied soul prior to its awakening on the day of judgment. Of that awakening, too, there have been many and varied conceptions and doctrines. The materialistic Hell with

its demons and eternal fires on the one hand, and the abode of saints, winged angels and swelling choirs on the other; the awakening to everlasting condemnation or to eternal life and happiness. On the other hand, the belief is gaining ground that as the soul leaves this world it enters the next. The beautiful parables of Jesus, and more especially when he said that in his Father's house are many mansions, suggest a new life, with renewed activity and enlarged powers and capabilities. Whatever may be the views relating to the phenomena of mind and matter, that seems to be the most rational conception of man's hereafter.

So, the paths which converge at the foot of the hill on which the ascent to Heaven is still to be explored, are the indestructibility of force and matter; the continuity and development found throughout Nature; the more or less incomplete lives of men on earth; the existence of such phenomena as sleep; the awakening of the weary; the fact that neither reward nor punishment is always meted out during man's earthly existence; the still small voice of conscience, all coupled, with a conviction, the growth of ages, of the

eternal justice of God. Those are some of the data on which mankind has based its belief in the immortality of the soul, although there are many of a more or less legendary, traditional, or mysterious character associated with every religious faith of the past and present.

No doubt it will be argued that some of the above data are subjects of controversy, and the reply is that so far as they have been understood during the passing ages, each phase of belief in immortality has had its interpreters, and what are called its prophets; that in our day one or more of them is accepted in theory by the highest authorities in morals and religion; and, generally speaking, in practice, as they have been interpreted in daily life, by every nation; in fact, by all mankind.

XXII

"THE KINGDOM OF HEAVEN." THE INFINITE IN SPACE AND TIME. CONCLUSION

No doubt many of our readers will have read the following story, which appears to us to be remarkably applicable to the search after "the Kingdom of Heaven." A farmer, who had only one son, not remarkable for his industry sent for him as he lay on his death-bed and informed him that there was a valuable treasure concealed in one of his fields, but he did not tell him in which it was to be found, and departed his life, leaving his son in ignorance. As soon as the farmer was dead his son set to work, and with the help of his servants carefully dug over every one of his fields without finding the expected treasure, but a splendid harvest was the result of their labours, which so stimulated the son's energies that he was diligent ever afterwards. The same "honest work" is proceeding in

the world of science and learning, with this difference, that one set of minds is at work in the field of physics, another in that of morals, and a third in the theological field, and when the spade work is completed, the treasure will probably be found; but as in the case of the farmer's son, it will in no wise resemble what the labourers had anticipated. To take a single example. In recent years many industrious delvers have been actively engaged in the fields of physics and astronomy, but mainly with a view to the application of their discoveries to the material wants and desires of mankind. Of those we have already spoken, but we will now take a higher view of their labours. If we could take up a fixed position in the universe, leaving for a while our earthly abode, we should see what has long been known to astronomers, namely, that the great orb of day does not move round the fixed earth, rising in the east and setting in the west, nor yet the moon and stars appearing through darkness and setting at the dawn of day. Around us, there would be numerous worlds revolving rapidly on their own axes or round each other, and the whole system hurrying away through space.

No, not through "space" in the popular acceptation of the word, for that would mean an absolute vacuum. They would be found one and all to float on or in an infinite ocean of matter, highly attenuated and composed of innumerable particles. Those particles, which are known to scientific men as "corpuscles," are charged with electricity; they are of minuteness conceivable only to what may be called the mathematical mind, and they move "at enormous speeds which approach in some instances the velocity of light." [1] Well, neither our thoughts concerning the innumerable distant spheres, nor yet "the infinitely small corpuscles of matter," enable us to grasp the Infinite. We cannot conceive of unlimited, nor of limited space; nor, therefore, of the worlds that fill that space, although we may believe it possible that there is a limit to the subdivision of matter into "particles." But what we do learn from our mental survey is that the distant orbs as well as the most minute particles of matter are governed by identical laws and forces, and so we obtain additional confirmation of the fact that those

[1] Thomson. Presidential Address, British Association.

laws and forces are under the control of One All-wise, Omnipotent Ruler of the Universe. And as for the infinity of time, when we remember that to us time means the rising and setting of the sun and the motions and changes of Nature, and find that all those phenomena represent perpetual motion, we feel it possible that we may obtain an inkling of that unchanging **Now** which we call eternity, which is an attribute of God, and we hope also of all His creation, ourselves included.

The misfortune is that whilst thousands are constantly and laboriously investigating the laws of Nature, it is only here and there that one of them concerns himself with their relation to immortality, and that the very men whose profession it is to do so are often so completely wedded to their own shibboleths that they regard increased knowledge of God's laws in the physical world as being inimical to the belief in God Himself; that is to say, to their conception of Him which is frequently based upon ignorance and superstition. In saying these things concerning the revelation of God in Nature, it must be understood that we by no means desire to underrate teaching based upon man's moral and religious attri-

butes. For, after all, the study of Nature, even in its grandest aspects, chiefly serves to reveal the power and wisdom of the Almighty, whilst the sacred and secular history of man's life tells us of His fatherly love and of His desires for us during our earthly existence.

Whilst in this world, therefore—

"Be this our aim with purpose true,
To raise the fallen, right the wrong,
To make this world an earthly heaven
And life a grand sweet summer song," [1]

Then may we hope for a higher and happier life hereafter.

FINIS.

[1] W. H. Seal. Factory Inspector's Valedictory Address to the Operatives of his district.

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Index Summary

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