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978-1-108-06247-3 - The World Before the Deluge
Louis Figuier Translated by Henry W. Bristow
Excerpt
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A THESIS.

I AM about to maintain what may be thought a strange thesis.

I assert that the first books placed in the hands of the young, when they have mastered the first steps to knowledge and can read, should be on Natural History; that in place of awakening the faculties of the youthful mind to admiration, by the fables of Æsop or Fontaine, by the fairy tales of 'Puss in Boots,' 'Jack the Giant Killer,' 'Cinderella,' 'Beauty and the Beast'—or even 'Aladdin and the Wonderful Lamp,' and such purely imaginative productions, it would be better to direct their admiring attention to the simple spectacles of nature—to the structure of a tree, the composition of a flower, the organs of animals, the perfection of the crystalline form in minerals, above all, to the history of the world—our habitation; the arrangement of its stratification, and the story of its birth, as related by the remains of its many revolutions to be gathered from the rocks beneath our feet.

Many readers will protest against this proposition. Is it not the fact, they will say, that fairy tales, fables, and the legends of mythology, have always been the first intellectual food offered to the young? Is not that the natural means of amusing them, as some relaxation from more severe study?

And, they will add, society has been none the worse!

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It is here I would claim the reader's attention. I think, on the contrary, that many of the evils of society may be traced to this very cause. It is because we cherish this dangerous aliment, that the living generation includes so much that is false, so many weak and irresolute minds, given to credulity, inclined to mysticism—proselytes, in advance, to chimerical conceptions and to every extravagant system.

Intelligence is scarcely awakened, when we do our best to destroy it by our training. Our very first step in this path of folly is to teach the impossible and absurd. We crush, so to speak, good sense in the eggshell, when we concentrate the ideas of the young on conceptions at once dreamy and opposed to fact and reason; introducing them into a fantastic world, in which are jumbled together gods, demigods, and pagan heroes, mingling with fairies, goblins, and sylphs; spirits—good and bad—enchanters, magicians, devils, devilkins, and demons; and all this while no doubts seem to be entertained of the danger likely to arise from this constant presence of ideas so subversive of common sense. At a period of life when intelligence is like soft wax, which takes and preserves the feeblest impressions—when, innocent as yet of all knowledge, the mind is eager to acquire it—when we may bend or break it at pleasure. And yet we are surprised that this intelligence, this wax so soft and ductile, should preserve, at a later period, indelible marks of the absurd course of instruction which has been adopted. Suppose that we were to find a people wise enough to seek, in a reasonable contemplation of nature, the means of amusing and interesting the young—a generation which had thus been trained from an early period to examine and study the creation, which should have formed its judgment from the naked truth, its reason from the infallible logic of nature, which had learned to comprehend and bless the Creator in his works; would not such a generation assure to the state honest citizens of a right spirit, firm and enlightened minds, imbued with devotion to God, affectionate to their relations, and love to their country?

Were I to live a hundred years I could never forget the frightful confusion in which my young head was left by my first lesson in

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mythology. There was Deucalion, who created the human race by throwing stones over his shoulder, these stones giving birth to man ; Jupiter, who was made to open his head to give birth to Minerva, with all her accessories ; Venus, who was born one fine morning of the wild sea-foam ; there was old Saturn, who had the bad habit of devouring his own children, and whose paternal voracity was deceived one day by the substitution of a stone for the last-born. And that Olympus ! where gods and goddesses mingled and were daily guilty of the vilest actions. How is a brain of tender years to resist the entire overthrow of the more simple impulses of good sense ? And is it not deplorable to be compelled thus to enter into the paradise of Knowledge through the gates of Folly ?

To the fantastic vagabonds of the pretended religious legends of Paganism, we have now added those of the fairy tales. The child has scarcely learned to rattle its coral when it is told of the good and the bad fairy ; of the magician Rothomagus and the enchanter Merlin ; of the seven-leagued boots ; of men changed into mice ; of mice changed into princes ; of old beggar-women changed by the waving of a wand into young princesses, rustling in silks and covered with precious stones. These are the fine thoughts upon which we exercise the dawning imagination, without reckoning the Chinese shadows, the juggler's cup and balls—which, in the hands of Houdin and Anderson, render still darker the atmospheric clouds which surround the young brain to its destruction. In the midst of this inundation of follies, how are the young to preserve the reason with which Providence has provided them ? Alas, it is never entirely preserved ; much of the primitive good sense with which the child was gifted is superseded by the love of the marvellous to which humanity is naturally too prone ; excited as it is from the days of earliest infancy, it is never entirely overcome—seldom reduced to reasonable bounds.

Already roused in its cradle, as it were, by the songs of its nurse, which tell of bogies with their escort of devils and demons, its instruction is made to consist of fairies and fairy tales, or of the still more objectionable stories of mythology ; by which the love of the

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marvellous—that is, of all things opposed by and contrary to reason—is encouraged. In this manner the love of the marvellous pervades the mind in the hour of its awakening, leaving it a prey to the worst superstitions. How, then, should we be astonished at the alternate appearance of fanatical ignorance and threatening socialism, or, worse still, with the appearance of those epidemics which, under the name of animal magnetism, table-turning, and spirit-rapping, come to lead us periodically back to the superstitious practices of the middle ages.

The proposition that we would defend is thus less paradoxical than it appears at first. The tales and legends that we give as the teachers of infancy are dangerous, because they cultivate and excite that inclination for the marvellous which is already excessive in the human mind, whereas the first book placed in their hands ought rather to have a tendency to fortify—to strengthen its young reason.

But, we may be asked, would you then mutilate the human mind by reducing it to the single faculty of reason—rejecting, as out of its sphere, all that is imaginative—all the ideal? Would you suppress thus all poetry, and even all imaginative literature, for both have their foundation in the love of the marvellous; or, to speak even more correctly, they are the marvellous itself? A generation educated in such principles would, no doubt, reason justly; its mind would be well furnished, but destitute of all ideality—of all imagination—of all sentiment; the masses so trained would be a mere collection of *calculating machines*; whereas the man of cultivated mind should possess sentiment as well as reason. It is well that he should comprehend the material phenomena by which he is surrounded, but he ought to learn also to love and to feel: if it is his duty to cultivate his mind, ought he not also to form his heart?

These are objections which naturally present themselves, and here is our reply:—

The imaginative faculty, which permits of ideality and of the abstract,—which forms poets, inventors, and artists,—is inherent in the mind, and cannot be suppressed; it can only perish with it. It is the integral part of intelligence. All which concurs to fortify, to

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enrich intelligence, and enlarge the sphere of its activity, turns, or ought to turn, at some time, to the profit of the imaginative faculty itself, which is only a part of the whole. It is for this, among other reasons, that it is necessary to supply our intelligence with exact and rigorous notions—to nourish incontestable truths—to keep aloof all sterile, and especially all injurious fiction; in short, to constitute the mind strongly and healthily, and then to exercise, in all its freedom, this fine faculty of imagination, the mother of poetry and the arts, freed from all baleful fetters. Let us begin by laying a solid foundation in the mind from the days of infancy, and we shall never want either poets or artists.

But these rigorous notions, these incontestable truths, with which it is desirable to furnish the minds of the young, are they difficult to find? Do they impose any great labour on the youthful mind?

It is necessary to take the youth by the hand, lead him into the fields, and tell him to open his eyes. The birds of the woods, the flowers of the fields, the grass of the meadows, the nightingale which sings upon the last lilac-tree, the butterfly which traces in the air its line of rubies and emeralds, the insect which silently weaves its temporary dwelling under a withered leaf, the rosy dawn, the fruitful rain, the warm refreshing breeze which murmurs through the valley,—these are the ever-varying objects of his simple labour, these his *plan of studies*.

The feeling of insatiable curiosity which possesses the mind in the dawn of life—the eager desire for knowledge which awakens forth reason and desires natural to all ages—is most vivid during youth. Feeling its own want of knowledge, the mind is then eager to acquire it; he throws himself with youthful ardour upon every novelty which presents itself. It would evidently be attended with immense advantage to profit by this disposition, to infuse into the young mind correct notions of the true and the useful; the study of nature responds perfectly to these views. It involves no labour, but is itself, on the contrary, a veritable attraction, appealing, as it does, to all uninfluenced by difference of language or of nationalities.

In habituating themselves to the study—in seeking to comprehend the great and the small phenomena of creation ; in reading this admirable book of nature, open to all eyes, and which, when read, ornaments the mind with knowledge at once useful and practical ; the youthful student teaches himself, while admiring in its wonders—in its infinitely great as in its infinitely little—the Divine work of the Author of all things. He prepares his mind to receive efficaciously the fruitful seeds of religion—of science—of philosophy. Last, and not least in our eyes, although a negative quality, it extracts the poison sown in his mind by the tales of fairies, by the legends of mythology, by all the dangerous apparatus of infantile marvels to which we have alluded.

We have devoted ourselves to this task—difficult, without doubt, but assuredly fruitful in gentle gratifications—of spreading among the mass of the contemporary public a taste for scientific studies. What we have hitherto done for more matured intellects, we would now attempt for the rising generation, strongly penetrated with the advantages which the study of nature offers to the young.

The study of geology, it has been alleged, is unsuited for the instruction of youth, and in some countries it is even interdicted as anti-religious. These ideas were perhaps legitimate when the science itself was in its infancy—when doctrines now recognized as erroneous—which rendered the earth subject to continual revolutions and cataclysms—prevailed ; when, in order to explain the disappearance of organic species, it was thought necessary to invoke a new revolution—to turn the world upside down—to produce a deluge at every epoch. We now know that our globe has, beyond all doubts, been the theatre of frequent catastrophes : immense rents have been torn in its solid crust, and eruptions of diverse kinds have issued from its abyss, which have torn up and displaced the soil, burying continents, excavating deep valleys, and elevating lofty mountains. But all these phenomena, in spite of their power and intensity, have not extended to the entire globe, destroying all living beings. Their action was necessarily local. If, then, the organized beings of one period differ from those which

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follow, it is not because a revolution of the globe destroyed a whole generation in order to construct on its ruins a new one. This idea is opposed to the facts : it is contradicted by the regularity of the beds enclosing the different species of fossils, and by the fact of the existence of many species through a long series of stratified rocks. Where, then, is the danger of admitting the fact into a work for Popular Reading? The different species have died out quite naturally, and races have died out like individuals. The sovereign Master who created animals and plants has willed that the duration of the existence of species on the surface of the earth should be limited as is the life of individuals : it was not necessary, in order that they should disappear, that the elements should be overthrown, or call to His aid the united fires of earth and the heavens. It is according to a plan emanating from the All-powerful and from His wisdom, that the races which have lived a certain time upon the earth have made way for others, and frequently more perfect races, speaking in the sense which implies a more complex organization. Another important point : geology and biblical revelation are now pretty well agreed. We speak of the existence of the human race at the period of the Great Deluge of Western Asia. It was long alleged that man only appeared upon the earth after the grand geological convulsion, which produced the inundation of the countries situated at the foot of the long Caucasian chain. The recent discoveries of Boucher, Perthes, Lartet, and Lyell, have placed beyond a doubt the existence of man at this epoch ; proving that the earth was inhabited by the human race before this Deluge, and justifying in this respect the recital of the sacred historian.

Geology is, then, far from opposing itself to the Christian religion, and the antagonism which formerly existed has given place to a happy agreement. Nothing proves with more certainty than the study of geology the evidences of eternity and divine unity ; it shows us, so to speak, the creative power of God in action. We see the sublime work of creation perfecting itself unceasingly in the hands of its divine Author, who has said, "Before the world was, I was." To chaos succeeds a sphere still incandescent, which is modelled into form,

and becomes cool enough to permit of organic life. Its burning surface, at first rough and naked, is covered by degrees, and decorated with shrubs and trees. Continents and seas in due course take their definite limits. Rivers and rivulets flow tranquilly between their banks, and the earth becomes clothed with its present aspect of magnificence and tranquillity. In the case of organized beings, the first animals which appeared were simple in their organization; but as the soil became better adapted for organic life, others succeeded, until God made man—His latest work—to issue from His creative hand, ornamented with the supreme attribute of intelligence, by which he is authorized to rule all nature and subdue it to his laws.

Thus nothing is better calculated to fix in the mind of youth the thought of the All-powerful than the study of the successive revolutions of our globe, and of the generations of beings which have preceded and prepared the way for man. The work leaves us to adore the workman.

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THE WORLD BEFORE THE DELUGE.

GENERAL CONSIDERATIONS.

THE observer who glances over a rich and fertile plain, watered by rivers and watercourses which have, during a long course of ages, pursued the same uniform and tranquil course; the traveller who contemplates the walls and monuments of a great city, whose foundations are lost in the night of ages, witnessing, apparently, to the unchangeableness of things and places; the naturalist who examines a mountain or other locality, and finds the hills and valleys and other accidents of the soil in the very spot and condition in which they are described by history and tradition;—neither of these inquirers would at first suspect that any serious subversion had ever occurred to disturb the surface. Nevertheless, the spot has not always presented the calm aspect of stability which it now exhibits; in common with every spot of earth, it has had its convulsions, its physical revolutions, whose story we are about to trace. Buried in the depths of the soil, for example, in one of those vast excavations which the intrepidity of the miner has dug, in search of coal and other minerals and metals, there are numerous phenomena which strike the mind of the inquirer, and

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carry their own conclusions with them. A striking increase of temperature occurring in these subterranean places is one of the most remarkable of these. It is found that the temperature of the earth rises one degree for every sixty or seventy feet of descent from its surface. Again: if the mine be examined vertically, it is found to consist of a series of layers or beds, sometimes horizontal, but more frequently oblique, upright, or even corrugated and undulating—even folding back upon itself. Then, instances are numerous where horizontal and parallel beds have been penetrated, and traversed at right or oblique angles by veins of metals or minerals totally different in their nature and appearance from the surrounding rocks. All these undulations and changing inclinations of strata are indications that some powerful cause, some violent mechanical action, has intervened to produce them. Finally, if the interior of the beds be examined more minutely, if, armed with the miner's pick and shovel, the surrounding earth is dug up, it is not impossible that the very first efforts at mining may be rewarded by the discovery of some fossil form no longer found in the living state. The remains of plants, and animals belonging to the first ages of the world, are, in fact, very common; entire mountains are formed of them, and, in some localities, the soil can scarcely be touched at a certain depth without yielding fragments of bones and shells, or the impression of fossilized animals and vegetables, the buried remains of extinct creations.

These bones—these remains of animals or vegetables which the pick of the young geologist has torn from the soil—belong probably to some organic species which no longer exists anywhere: it cannot be compared to any animal or plant living in our times; but it is evident that these beings, whose remains are now so deeply buried, have not always been so covered; they lived on the surface of the earth as plants and animals do in our days, for their organization is essentially the same. The beds in which they now repose, then, must in other times have formed the surface; and the presence of these bones and fossils prove that the earth has suffered great mutations in distant times.