

NATURE UNMASKED.

BY ALEXANDER MOZKOVSKI.

A SCIENTIST sets to work with some special purpose in view and prepares an infusion of certain vegetable fibres. After a few days a very lively little community of infusoria begins to develop in this fluid. It is visible only under powerful magnification. In general these infusoria appear to be content with their condition. Only one particularly clever animalcula ventures upon criticism and communicates this to his kind. This drop of water was altogether too constricted, the conditions of subsistence were far from favorable, yes, the very construction of their own bodies with their bits of tissue, hairs and feelers must be regarded as a clumsy makeshift affair. And thus, applying his deductions to the subject of his origin, the microscopic critic comes to the conclusion that certain gross errors had been made, and that he himself would have arranged all this far better.

This procedure must be consigned to the realm of the impossible. Even the most brilliant of infusorial animals cannot realize the scientist in thought, the human creator who prepared the solution, nor the intentions by which he was governed, nor the factors of development with which he reckoned. The thinking and criticizing infusorium is an incongruity. But what if it were *not* an incongruity? What if it were merely a tiny simulacrum of the scientist himself, he who smiles at the phantasy I have conjured up, and who, a little later pursues the same line of thought in his lecture?

For our scientist goes to his lecture-room and sets to work to discuss the intentions of Nature. He compares these with his own and discovers errors in the plan of creation, especially in the structure of organisms. He proves where they have missed the proper connection or made a *faux pas* and how this or that might have been done more logically or efficiently or expediently. When he speaks of Nature or, in rhetorical moments of Mother Nature, an ironic

undertone is likely to creep into his discourse. For Nature, the maternal and the almighty, has set up her rules for all conceivable happenings, natural laws, as they are called which, once we subject them to the probe of the human reason, are disposed to reveal certain moral weaknesses on her part. But our scientist goes still further; he ventures to speak even of the *vices* of Nature! And coldly and clearly and with an astonishing intellectual acumen he proves that these exist.

He may cite eminent authorities in support of his attitude, that is if we may accept the reported words of the Great Ones who did not wholly agree with Nature, and had many a sharp difference with her. This group of Irreconcilables is led by one of the mightiest of them all, perhaps by the greatest master in the co-ordination of natural, scientific and philosophic knowledge: Herman Helmholtz. We need not for the present consider whether he really meant all this in the anthropomorphic, human—all-too-human way in which he gave it utterance. But he gave this dictum voice and his word must be given the value of an historical verdict.

He first proceeded against Nature as the manufacturer of the human eye. Helmholtz did not deny that this organ possessed certain very admirable qualities, but most emphatically he condemned the fact that there was no proper central registration in the relation of the cornea to the hyaline lens. And then he uttered his famous saying that were a mechanician to bring him an instrument so full of flaws and unnecessary difficulties, he would show him the door. A snub direct for Mother Nature and a strong snub.

It is therefore clear that Nature has either not studied optics sufficiently or that she has not quite understood what she did study. Or else she went to work with unskillful hands, or committed sins even greater than these. For let it not be forgotten that Nature, the Master Mechanician, created the entire mechanism of the Universe as a kind of preliminary condition of her work, and that this cosmic mechanism is based upon a law which Galileo discovered in 1638, the Law of Inertia. How clever, how cunning of Nature! She decrees that a vice shall be the general *Leitmotiv* and takes advantage of this vice whenever the responsibility for her own creations comes into play. This law—as someone has already disclosed—is nothing more than a subterfuge, an excuse for every bit of scamped work in the workshop of the Universe. Nature suffers from Inertia, she is lazy, she shuns work, she does not take sufficient pains to execute her orders properly.

The alleged botching of the human eye is merely a particularly crass example of these methods of hers. But there are also other organs which give us occasion for disconsolate discoveries. First of all: Nature never tests the things she has made; she does not repair the things that require repair, she neglects to make the damage good. It was because of this behavior of hers that the famous Metchnikoff of the Pasteur Institute, the co-creator of the theory of organic immunity, gave her such a raking over the coals.

In taking over old house furnishings, we are apt to find among the useful things many that are useless and even pernicious, for example, we use electric light and inherit a pair of candle-snuffers. Man has inherited organs which resemble such utensils. The vermiform appendix is the snuffers of the human house. Nature cannot be brought to concede that she is merely imposing a sinister burden upon us with this thing. She persists in fabricating again and again out of sheer, outlived routine, this wholly purposeless and disturbing organ which we would do well, whenever this be possible, to cut and cast behind us. And the same thing is true of the large intestine. This not only serves no purpose, but nourishing, as it does, some 120 billions of bacteria every day, it becomes a protector of microbes and the herd of infection of numbers of devilish diseases.

Metchnikoff considered that the stomach was also the result of a bit of botch-work, at least in so far as stale routine and inertia continued to afflict it. "Nature will not see"—declared the great savant, and then left it to his hearers as to whether they chose to charge Nature with folly or with malice, or with both. The professor acted the part of the Attorney-General and accepted the ancient evasion based upon the Law of Inertia merely as an extenuating circumstance. It was surely incumbent upon Nature to see something which a child of hers, such as Metchnikoff, saw so clearly.

There is no doubt that at the beginning of things Nature had the choice of different methods of work. According to Leibniz, supported by Browning's Pippa and the American New Thinkers, the result has been the best of all possible worlds—varied, to be sure, by Schopenhauer's dictum that it was nevertheless still worse than none at all. Our great contemporary scientist seizes upon special organs and declares: This vermiform appendix or this large intestine is the worst of all possible intestines.

Having reached this point, we are suddenly face to face with a most momentous counter-claim. It grows out of our consciousness

of our *missing* organs. Consider! Nature has placed us in the midst of the things she has created and bade us comprehend them, yet did not even equip us with the most necessary means and organs for this purpose? The eternal surges and vibrations of the electromagnetic world surround us on every side, and yet we are able to conjecture or compute them only by way of the most arduous and indirect calculations, bring them to the consciousness of our imperfect senses only by means of unrecognizable disguises, and never, never in their elemental form. Our eye, subject to all the ordinances of optics, is a blind instrument in comparison with the electric eye—the eye which Nature denied us. Our ear is deaf, our sense of touch dull as a clod in this electric infinity. And it is in such a universe that we are to find our way, like a wanderer lost in the ranges of the Himalayas with nothing but a guide-book to the Catskills! What purposeless close-fistedness! Animals of the lower orders, such as the electric eel, or the sheath-fish of the Nile, even inanimate iron has been given this sense of orientation. But Man, *Man* must go the whole distance from the ancient sages of Egypt to Volta, Guericke, Edison, Roentgen and Rutherford in order to find a poor and broken staff which will help him to totter and blunder onward for a foot or two.

Thus niggardliness must also be inscribed upon the record of Nature's sins, and set in juxtaposition with her senseless extravagance—in germs and seeds, in space, in unutilized forces. The two together give us a zig-zag curve of mad inconsequentiality, wreaking havoc upon every law of logic, a dizzy and staggering senselessness which is, of course, apparent even in her primal and original laws. She invented the shortest line, alleging it to be a rule for the carrying out of the greatest tasks with the expenditure of the least energy, and great was the praise showered upon her for this by Fermat, Maupertius, Euler and others. And then on the other hand, she invented the longest line, the principle of the great round-about, whenever it came to the breeding of a species, or an organism. If, according to the Theory of Selection, only the fittest creature survives, and if no single path of development is thereby brought to a close, then this surely proves that up to the present no single type or specimen has really fitted properly into the world, and that Nature has so far bungled everything she has attempted.

Whether it be a species or an individual of a species, whether it be an organ or an organism—no matter—Nature manhandles and meddles with them with the same stinginess, the same extravagance,

cruelty, sloth and precipitation. She is eternally proving by one principle that the other hasn't a leg to stand on. It took her millions of years to develop her show-piece, the eye, out of a patch of pigment—a botch job which would have brought Helmholtz's mechanician into serious difficulties with his employer.

This black list of sins and delinquencies and their proofs might be extended over hundreds of pages. But let him who would perforce make a book of them, remember this—as I have not failed to remember it—to connect the last chapter with the introduction—to let the last word be spoken by the infusorial animalcula which criticizes the infusorial fluid. For we shall never be able to get beyond the closure of the circle. If the works are poor and imperfect, so are the instruments of reason and apperception with which we have been equipped, and the former appear to us as we see them merely because we see them with an untrustworthy instrument.

When a scientist strives to find perfection or flaws in what must remain the Inconceivable, he is as a man who is attempting to jump over his own shadow. He cannot leap over anything save his own imperfection. Never before and never after has any one of the supreme spirits of which we can boast expressed this so briefly and so strikingly as Goethe in his world-embracing line: "Man can never conceive how anthropomorphous he is!"