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CREED OF A NATURAL PHILOSOPHER

OF

MODERN TIMES.

A popular exposition of the chief results of modern
natural scientific investigation.

Translated from the second German Edition by

Prof. EDWARD WIEBE.

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To
the *Deutscher* with
the *highest* esteem.

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INTRODUCTORY REMARKS.

The original German issue of this exposition contains, after each separate section, copious quotations from the works of DARWIN, LAMARCK, BUCCLE, HAECKEL, HUM-BOLDT, KANT, QUINCY, RIEL, ZOLLNER, SCHOPEN-HEUER, THOMASSEN, GROVE, KLEIN, ROB. MAYER, KLINCKOWSKI, MEINAUER, FLAMMARION, PROCTOR, SIR WILLIAM THOMSON, WIENER AND LUDWIG-BOFF, in proof of the correctness of theses, promulgated in each section.

The translator, in omitting these quotations, brought the "Creed" into a more condensed and yet concise form. Although highly interesting, he deemed these quotations unnecessary, each principle, put forth in the "Creed," appearing to the unbiased mind as self-evident, irrefragable truth, hence, speaking for and proving itself.

The translator, however, will be happy if this omission on his part, should induce the reader to take up any of the works of the above named illustrious benefactors to mankind, to whom will be due the

thanks of all coming generations for the light they have caused to shine into the darkness of the present century, delivering thereby from bondage the minds of all desiring to be free, from the fetters of ignorance and superstition.

He, who has ears to hear, eyes to see and brain to think: let him hear and see and think, that his progeny may inherit from him a larger share of mental capacity than he inherited from his progenitors and thus contribute his part to the general development of the human race until that *degree of perfectness will be reached when the "excellence of man"—so far a misnomer — will be an indisputable fact.*

Let us all endeavour to contribute our mite, insignificant though it may appear, toward hastening on the *glorious advent of that sublime future, which in fact will be the millennium, when Satan, King of lies, will be bound for ever and Truth reign triumphantly through-out the world.*

TO ALL OF EQUAL MIND GREETING!

§ 1.

A "Creed" I call this exposition. This, however, is not exactly correct, for a true naturalist of modern times believes

just nothing. He simply adheres to what we know with (more or less) scientific certainty, and of that there is so much that the naturalist of to-day is fully occupied

for life-time with an unceasing acquisition of new facts and new laws. For all he *does not know with certainty*, he satisfies himself—if need be, to fill up gaps in science—by drawing inferences from established facts, now inductively, then deductively, i. e. reasoning from a part to a whole, or from particulars to general. Any and every thing not to be received in this manner, a true naturalist leaves resting on its own merits. Hence, the word "Creed" should be understood as: That, which, with the accomplished naturalist of modern times, has taken the place of the dogma of believing souls, a "*Creed of knowledge*,"—if I may use this seemingly contradictory expression—, a statement of most general results, drawn from the contents of the sum total of natural science, investigation and thinking up to the present day, especially in regard to the universal system, inevitable laws of nature, the formation and decay of celestial bodies as well as single organisms, the origin and activity of physical powers etc. and in regard to the position of man in the world.

§ 2.

Properly speaking, all that follows is part of what constitutes the natural science of to-day. But, owing to the deplorable division of naturalists into so many egotistic, specialists—paying little or no attention at all to other branches of, or the results of universal knowledge—there are many among the naturalists perfectly ignorant of the progress of natural science as a whole, some of whom perhaps not deeming it even worth their while to inform themselves so far as to acquire a general view of it.

How, then, could we expect this of the

general class of less instructed people, who, as a matter of course, can only receive their knowledge from those very specialists and who naturally will cling to the dogmas, inculcated into their youthful minds, until they are taught something better. For, as the common class of people need believing in order to fill up the internally felt voids of knowledge (? Translator) intelligent men, or shrewd persons (inspired fanatics among them) have at all times made it their business to establish certain dogmas for the mass of the people.

It, therefore, appears perfectly in accordance with the spirit of the age to promulgate in the world in a popular manner the chief results of modern natural scientific investigation to enable every one to make himself acquainted therewith and to take his position in the realm of acknowledged facts accordingly.

This seems to be especially necessary for those who feel called upon, or fancy themselves to be ordained to work out for the common people what they are, or what they are not to believe. For those worthies in their quality as "the people's guardians" certainly can not desire to clash with acknowledged facts, as, at some future time they might have to suffer for it, for, no belief whatever, can be expected forever to successfully battle against acknowledged facts, resulting from dispassionate, scientific investigations.

If the sum total of human knowledge change in course of time, religious faith must needs change accordingly, because the latter only fills up the gaps existing in the former, as distinctly shown in the history of all nations.

§ 3.

The theses propounded in this exposition, are by no means entirely new. They have been pronounced more or less definitely by ancient and modern writers, viz.: Kant, (*Theorie und Geschichte des Himmels*), Laplace (*mécanique céleste*), Humboldt (*Kosmos*), Gauss (*Wachselwirkung der Kräfte*), J. K. Mayer (*Dynamik des Himmels*), Finer (*Grundzüge der Weltordnung*), Haeckel (*allgemeine Schöpfungsgeschichte*), Böcher (*Kraft und Stoff*), Biel (*Natur und Geschichte*), H. J. Klein (*Entwicklungsgeschichte des Kosmos, allgemeine Himmelskunde, Göt.*) and many others.

Several writers on natural science, however, have hitherto only at their general fundamental principles, others, for fear of the predominating theology, or in obedience to courtly eunuchism, have expressed them, carefully wrapped up in verbal opaqueness, when still others have deemed it prudent entirely to avoid dealing, with scientific sentences the necessary consequences of their own pronouncements.

To-day we need no longer hesitate to express natural philosophical truths fearlessly and without reserve. Nay, we are even obliged to promulgate without loss of time and without fear or favour the newly acquired results of our scientific labours to put a stop to that oscillating state of wavering of our present transition period, that *clearness and rest may enter the minds of men and the human society may devote themselves unshakably to the sublime tasks of the now, ushering in period of mental culture:*

"FOR THE REIGN OF FACTS HAS BEEN PROCLAIMED."

Natural philosophic investigation in con-

nection with both its sciences, *technics and the science of medicine*, is progressing surely and steadily. It has taken possession already of all better minds and is opposed only by visionaries and knaves. Already it pervades all spheres of knowledge, it regenerates all other sciences, it governs the whole life of family and state. It rules not merely in the factory, workshop and kitchen, but also in war-tare and diplomacy, in art and mercantile concerns: *it rules supreme everywhere!* Why should the sphere of thinking of the common people be closed against it? Let its light illumine every mind. Away with hypocrisy, away with white-washing and dying in colours, no more attempts at mediating compromises! To-day that only is to be called truth, which, by the medium of our senses and under careful observance of the methods of observation and deduction, prescribed by the exact sciences, may be recognised as in reality, existing. (from: *ex, out of, and sisters, to cause, to stand; hence: to stand in reality, in German: in Wirklichkeit bestehend. Tausl.*)

§ 4.

According to the ancient view of the world—wrongly called the *Mosaic* it having been and is still prevailing among the nations in all parts of the globe—the world and all within it has been called into existence (*created*) in an arbitrary manner, is preserved in the same way by acts of arbitrariness, and will perish in the same arbitrary manner (*last judgment, final doom*).

The so-called *Mosaic and Coptic histories of the world's creation* invest the creator with the roll of a pouter, given to angry passion, who in the first place

forms his figures of clay, then, after they are ready, is dissatisfied with and destroys them in order to produce better ones. Why, it may be asked, did he not form them in a more perfect manner from the beginning?

The new natural scientific view of the world holds that every thing in it happens according to immutable laws, which, if only presented in proper form, appear most simple and self-evident. Nothing but the enormous multiplicity of phenomena and events in nature and the incomprehensible crossing and connections of the same among one another render it utterly impossible for the uninitiated to perceive, a priori, the working of the laws, which, without the assistance of thorough scientific knowledge, always must remain a vain attempt.

It is especially Nature's being and working in the highest degree to the purpose in view, met with on every step, by which the uninitiated is constrained to ascribe this circumstance to a constant higher ruling power.

Quiet contemplation, however, shows, in accordance with the investigations of antediluvian crinoid (*Paleontology*) that in the course of thousands of years that only could maintain its existence, or regenerate, which was best adapted to existing circumstances. All, created less to the purpose and consequently less able to resist unfavourable influences, have perished long ago and given way to their superior, consequently victorious competitors, in the animal and vegetable kingdoms as well as in the stony world.

These so-called Darwinian principles have been adopted by most of the natural

philosophers, in place of the teleological view of former times.

§ 5.

The same laws, the same powers, the same matter govern every-where in the whole world. The spectral analysis proves the existence on all celestial bodies of the same chemical matter, found on our earth. The physical laws of motion, attraction, of sound-light-and warmth-waves etc. are the same through-out the whole universe.

'And wherever reasoning beings may be found the laws of logic and mathematics will undoubtedly govern their thinking apparatus. Twice two are four the world over!

§ 6.

The world is eternal. Nothing is wasted, nothing new is it. All matter as well as power is indestructible, imperishable, neither can matter nor force be generated anew, out of nothing, as it were.

§ 7.

Nothing but the form of things is changeable. Force and matter are in a constant transposition, constantly changing their form. Nothing in the world is unchangeable, stable, every atom is subject to perpetual changing.

Matter and force, like mind and body, are inseparable from one another, their distinction is but a play of human thought, in reality not existing.

Nothing was ever produced out of nothing, (by an act of creation so-called) and nothing will ever perish into nothing. All that is, was from eternity and will continue in all eternity, altho in constantly changing form. All nature is an uninterrupted *generating and decaying*, an incessant process

of development and unwinding; a perpetual transition from one combination into another, from one formation into the other, with a final destruction of combinations and formations thus produced.

§ 8.

The world is boundless as to time and space, that is to say:

- 1. The world has never begun and will never cease to be, it is eternal, was eternal and will be eternal. Time knows no boundary, neither in the remoteness of history nor in the minuteness of divisibility of the moment.
- 2. The universe is absolutely without boundary. If not so, a nothing must fill the space beyond its boundary, which is sheer nonsense. There is no measure in regard to largeness or smallness of the universe, it is even immeasurable. In accordance therewith there is not in the world a limit of the smallest, the divisibility of matter is infinite as is demonstrated by the microscope as well as by chemical molecular investigation and the physical measuring of waves of light and air.

§ 9.

What was called "the world" so far, was either (in the earliest times) nothing but our solar system, or (more recently) the accumulation, reaching as far as the milky way, of fixed stars, to which our solar system belongs. This, our group of fixed stars is but a small part of the world, a cluster of stars (an *asteral system*) as thousands of them may be seen farther out into the universe, as so called *nebulae*. We look upon the latter as accumulations of "world matter" forming either developed

or growing *asteral* (or *world*) systems, similar to that of which our sun with his planets represents an insignificant component part.

All these individual celestial bodies and *asteral systems* are undergoing continual, though gradual changes. The stars grow by degrees, out of "world matter" (in all probability by a condensing "world fog"), they exist for a time as particular stars, are, during this existence, a still shorter time inhabitable for living organisms and pass away in one way or another, viz.: by exploding, burning, being swallowed by other celestial bodies, etc. etc.

Our sun and our earth pursue this very same course. Our earth, internally as well as on its surface, is undergoing incessant transformations of which the geological periods speak volumes of unmistakable proofs. This gradual transmutation affects even the most solid rocks, the highest mountains, the seas and continents, each of which shows the traces of these transformations. Nothing is now exactly as it was thousands of years ago, nor as it will be thousands of years hence.

§ 10.

The "world space" is not empty but filled freely and mainly with an immeasurably fine, though material air, which is able to transmit waves of light and warmth (commonly called rays), secondly with innumerable infections, caused by fragments of worlds (asterites, clusters of comets) and dust-like organic or inorganic particles, "world-dust", among which are found embryonic vegetable and animal formations.

The atmosphere of the earth is without

- a. Higher mental activities are the clear processes of thought aimed at, and deduced from facts according to mathematical and natural scientific forms,
- b. lower, more animal functions of the brain are those partly, or entirely unconscious ideas, produced by impulses, sensations, pre-occupations, imaginations, poetical turns of mind, whims, desires etc., etc.

They place us on a level with Hottentot and Cannibal, albeit they are at present still looked upon as especially sublime, poetical or theological manifestations of a higher super-human reason, and circulated systematically among the people from nurseries, schools, churches (and universities, Transd.). Real substantial education can be founded on truth only.

Every attempt at educating the people by means of deception, pretences and imaginations leads downward on the road to delusion and heresies of the people?

In future times the epithet of being really and truly educated will be claimed by and granted to him only, who:

1. understands to discern always and every where between facts and figures of speech and imaginations, and has accustomed himself to take only the former as the foundation of his reasoning and acting;

2. has acquired the faculty of thinking and expressing himself in strictly logical, mathematical and geometrical forms, and the latter not only by words and speech, but also by means of figures and diagrams;
3. is possessed of a knowledge of the universal laws, the structure of the universe, of astronomy, of geographical, geological, physical and chemical sciences, and from own study and personal investigation is acquainted with the three natural kingdoms, in general as well as most or less in particular;
4. is informed about the structure and functions of the human organism (body and mind) as well as about hygiene;
5. is truthful and honest in all things, consequently carefully avoiding every hiding of facts, even if it were for pretended benevolent and pious objects and purposes.

In contradistinction to these, all those, harbouring, fostering or trying to circulate among the people any kind of low sensational, half-conscious ideas and invented untrue, or not to be proven assertions, will, at some future time be declared fools, or branded as impostors.

POSTSCRIPT.

The writer of: "*Glaubensbekenntnis eines modernen Naturforschers*," of which the above is a translation, has deemed it advisable to withhold his name from the eyes of the world although he himself pronounced in Section 3 "that we need no longer hesitate to express natural philosophic truths fearlessly and without reserve" nay, that we are obliged to promulgate, without fear or favour, the newly acquired results of our scientific labours."

It has been currently reported, that Prof. Virchow be the author of the "Creed" and this rumor has neither been contradicted by Virchow himself nor the publisher of the pamphlet; nay the latter alludes to it by way of reprinting, on the cover of the pamphlet, as if from a Dresden paper, in which Virchow's name appears in connection with the "*Glaubensbekenntnis*" as its presumed author.

Whether this be intended by the publisher as a recommendation of the pamphlet, he himself only knows, there can be no doubt, however, in the minds of the initiated, that Prof. Rudolph Virchow never could have promulgated all the principles, contained in the "Creed," for, by doing so, he would have refuted his opinions, expressed publicly and in the presence of most illustrious thinkers from among all civilized nations.

In his oration: "On the Freedom of Science in the modern state," delivered at the meeting of natural philosophers at Munich, September 15/22 1877, this gentle-

man acted the double role of politician and naturalist and, in this state of dualism, made front against Darwin, Haeckel and their followers, blaming them, indirectly. It is true, for having set aside all considerations in regard to politics and religion and strongly urged against publishing at large the Darwinian development theory in its bearings upon man, for as long as not be discovered a skull of a monkey, that might have served also as the head of a human being, it would never do to tell every "peasant boy": this we know and this we profess!

Without enlarging on these very peculiarly offered admissions, we simply ask, what, in all the world, has exact science to do with the excesses of politics, socialism, spiritism and the various and hallucinations of foolish minds? Surely, Virchow, with his expostions before the meeting of Naturalists at Munich has not rendered science the service intended by him, for already the dignitaries in church and state have made the best of the words, spoken by so prominent and influential a man, by holding them up as a shield against free investigation wherever it presents itself.

As surely as Prof. Virchow has not risen in the estimation of his admirers by his pronouncements at Munich, as surely they will be sorry for having learnt, that his "Creed" is not the "Creed" of the unbiased, true natural philosopher of modern times.

Translator.