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JULY, 1914

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The Open Court

A MONTHLY MAGAZINE

Devoted to the Science of Religion, the Religion of Science, and the
Extension of the Religious Parliament Idea

Founded by EDWARD C. HEGELER



A CHINESE REPRESENTATION OF BUDDHA AS A FISHERMAN.

(See page 411.)

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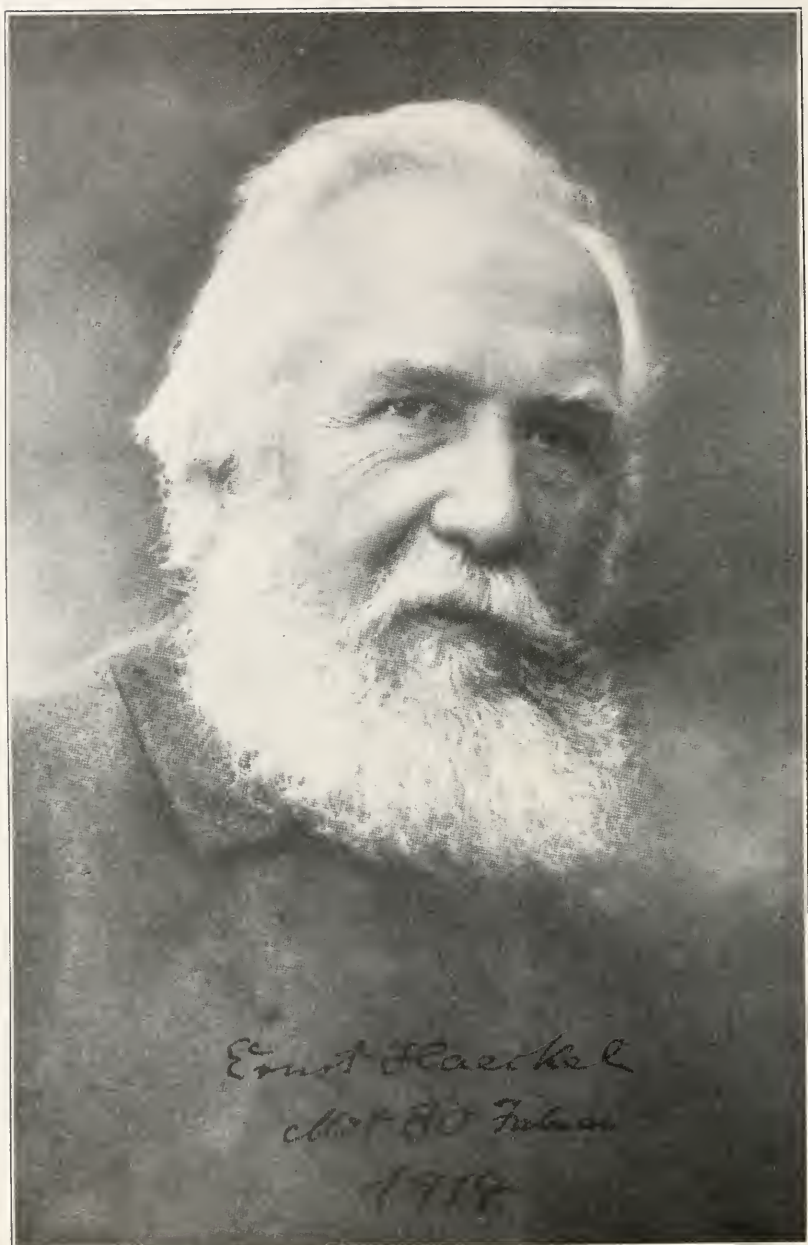
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A L'ORGANISATION DE LA SCIENCE,
PUBLIEE PAR GEORGE SARTON

EN RÉSUMÉ *Isis* est à la fois la revue philosophique des savants et la revue scientifique des philosophes; la revue historique des savants et la revue scientifique des historiens; la revue sociologique des savants et la revue scientifique des sociologues. Conçoit-on encore un philosophe, un historien, un sociologue ignorant tout de l'évolution et de l'organisation scientifiques de l'humanité? Tout philosophe préoccupé de science, tout savant préoccupé d'idées générales, soucieux de regarder au-dessus des cloisons de sa spécialité *doit donc s'abonner à ISIS*. — Le tome I (1913/14) a paru: 826 p. gr. 8°, l'index seul occupant 58 colonnes. (Prix: 30 frs.) Deux grands portraits hors texte. Les exemplaires restants seront réservés de préférence aux souscripteurs du tome II. Prix du tome II: 15 frs. *Demandez le programme et des extraits d'Isis à l'administration à*

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Frontispiece to The Open Court.

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VOL. XXVIII. (No. 7)

JULY, 1914

NO. 698

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GOD-NATURE.

A DISCUSSION OF HAECKEL'S RELIGION.

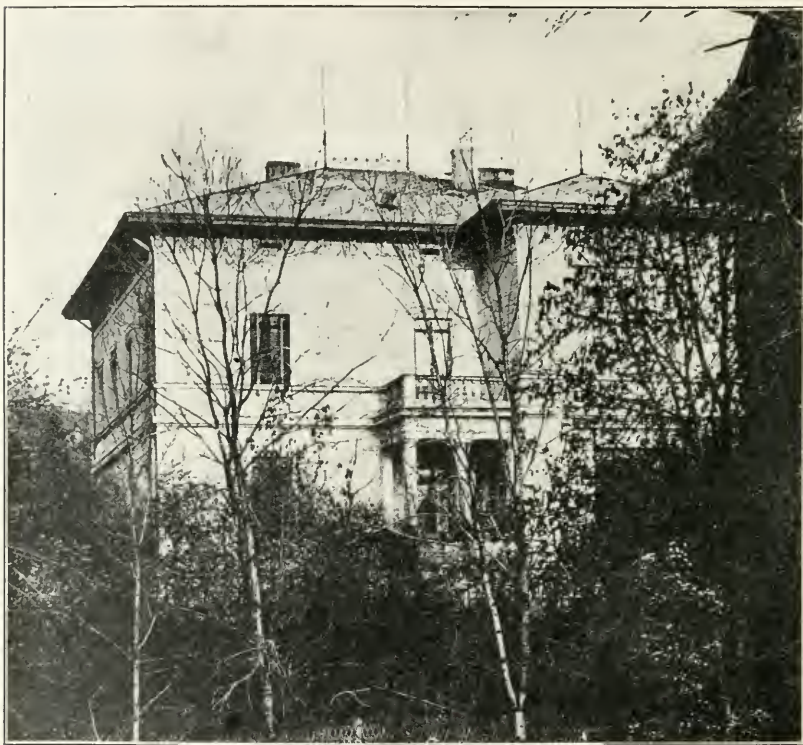
BY THE EDITOR.

PROFESSOR Ernst Haeckel's celebration of his 80th birthday, noted in *The Open Court* of last February, has been a triumph for the undaunted leader of the monistic movement. He has received over 1600 congratulations, among them 600 telegrams, 800 letters and 200 presents and congratulatory addresses from societies all over the world. Among the books, magazine articles and brochures which have been published on this occasion we note a work of two stately volumes, entitled *Was wir Ernst Haeckel verdanken*, edited at the request of the German *Monistenbund* by Heinrich Schmidt of Jena. It contains twelve elegant illustrations, a poetic prologue by Carl Brauckmann, an introduction by the editor, who passes in review the labors of Haeckel in scientific and artistic fields, and contributions of over fifty men of prominence in the world of science and literature. We mention Professor Ostwald, Dr. Breitenbach, Dr. Richard Semon, Professor Forel, Mr. James Morton, Professor Ortmann of the Carnegie Museum of Pittsburg, Pa., Dr. Davidoff of the Russian Laboratory at Villefranche-Sur-Mer, Dr. Ihering of Brazil, and there are many other men of international repute.

Another interesting little volume is entitled *Ernst Haeckel im Bilde*, which besides a short introduction contains one silhouette, a series of photographs, pencil sketches, and reproductions of oil paintings in all phases of Haeckel's life; first, as a student, with

his parents, as a docent, as a young professor, as a traveler in the Orient, on ship-board in his later years, and finally in his old age.

We learn from a postcard that the great grandfather of the professor, a certain Gottlob Haeckel, by trade a yarn-bleacher, was one of the 30,000 Protestants driven out of Salzburg by Count Firmian. This ancestor of the Haeckel family settled down in Prussia where Frederick the Great offered the refugees an asylum in Hirschberg, Silesia.



VILLA MEDUSA IN ERNST HAECKEL STREET, JENA.

The two volumes above mentioned characterize and eulogize Haeckel for his versatile activity in the service of science. He studied zoology and medicine, and gained his first laurels by laying down the principle of morphological method. He carried on successful investigations in the field of tiny life such as Radiolaria, sponges, Medusas and siphonophores. But his interests even then were not limited to the inhabitants of the ocean; we see him dressed as a butterfly hunter in a photograph taken on Lanzarote,

one of the Canary Islands. His attention was centered on the soul, and so he watched with pleasure the development of several souls into a community of souls like the siphonophore. He wrote on *Cell-souls and Soul-Cells*, and when he built himself a home in Jena in the Ernst Haeckel Strasse he called it "Medusa."

Haeckel's fame, however, does not rest upon his several labors in specialized domains of natural science, but upon his rare faculty of seeing the whole in the part and the universal in the particular. He is an ardent advocate of the evolution theory and was one of the first supporters of Darwin. His works *The Natural History of Creation* and his *Anthropogenesis* created quite a stir in the intellectual world, not only of Germany but also in other European countries. In these books he applied the lesson he had learned in his specialized investigations to the whole field of zoology.

Haeckel is not only a scientist; he is also an artist, and with an artist's eye he sees the beauty of nature's work. Like Goethe, he is a man endowed with all the noble qualities of human advantages. It is natural that his fascinating presence, his noble features with broad forehead and clear blue eyes, invited artists of high repute to paint this remarkable man who had become a leader in the struggle of opposing world-conceptions, and so we find among them many great names and no less a one than Lenbach.

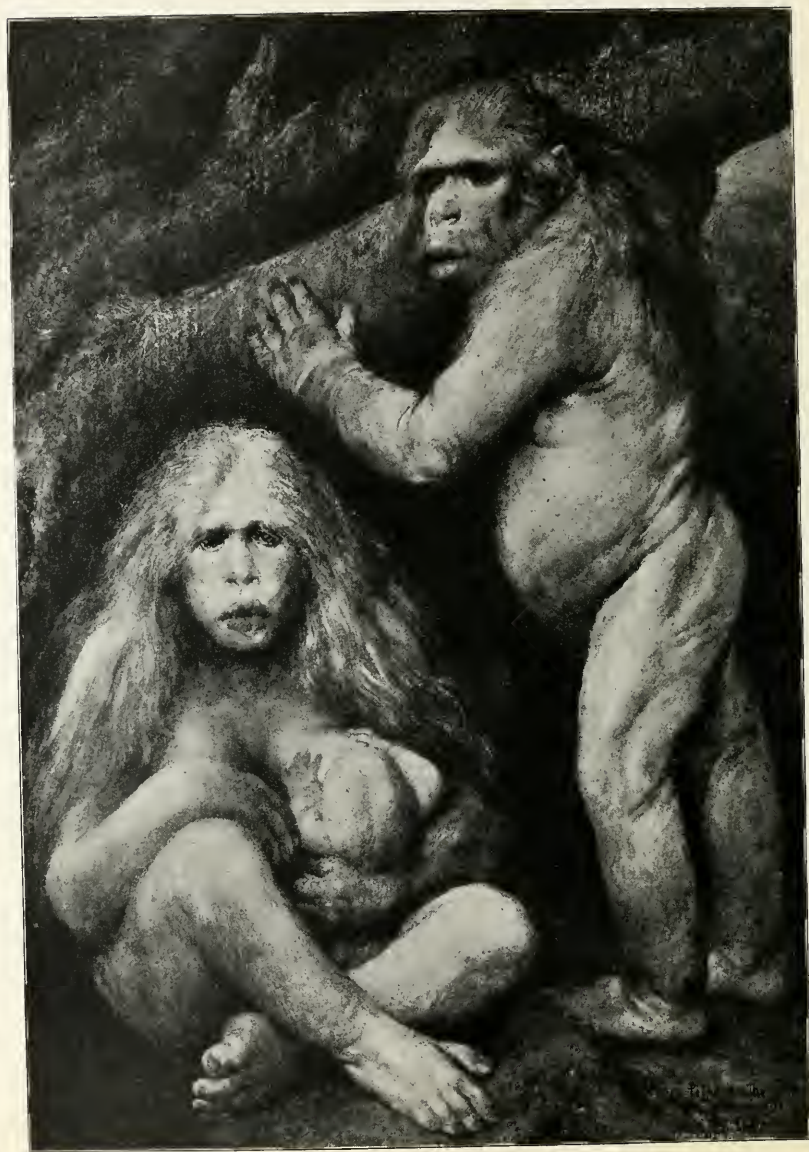
Gabriel Max took such a great interest in Haeckel's anthropogenesis, viz., the theory of the descent of man according to natural science, that he attempted to make a sketch of the missing link between ape and man, called *homo alalus*, that already bore human features but had not yet reached the height of *homo sapiens*.

Not the least valuable publication which has come out since the celebration of Haeckel's 80th birthday is a little book of only 72 pages, written by Haeckel himself and dedicated to his readers as his last message at the completion of his eightieth year. The title is *Gott-Natur* or *Theophysis*, and has reference to Goethe's use of the word, quoted by Haeckel, when the German poet in his pantheistic enthusiasm identifies God with nature as follows:

"Was kann der Mensch im Leben mehr gewinnen,
Als dass sich Gott-Natur ihm offenbare?
Wie sie das Feste lässt zu Geist verrinnen,
Wie sie das Geisterzeugte fest bewahre!"

[What greater boon can man in life attain
Than that God-Nature be to him revealed
To see how rigid stuff will spirit yield,
How what's begot by spirit will remain.]

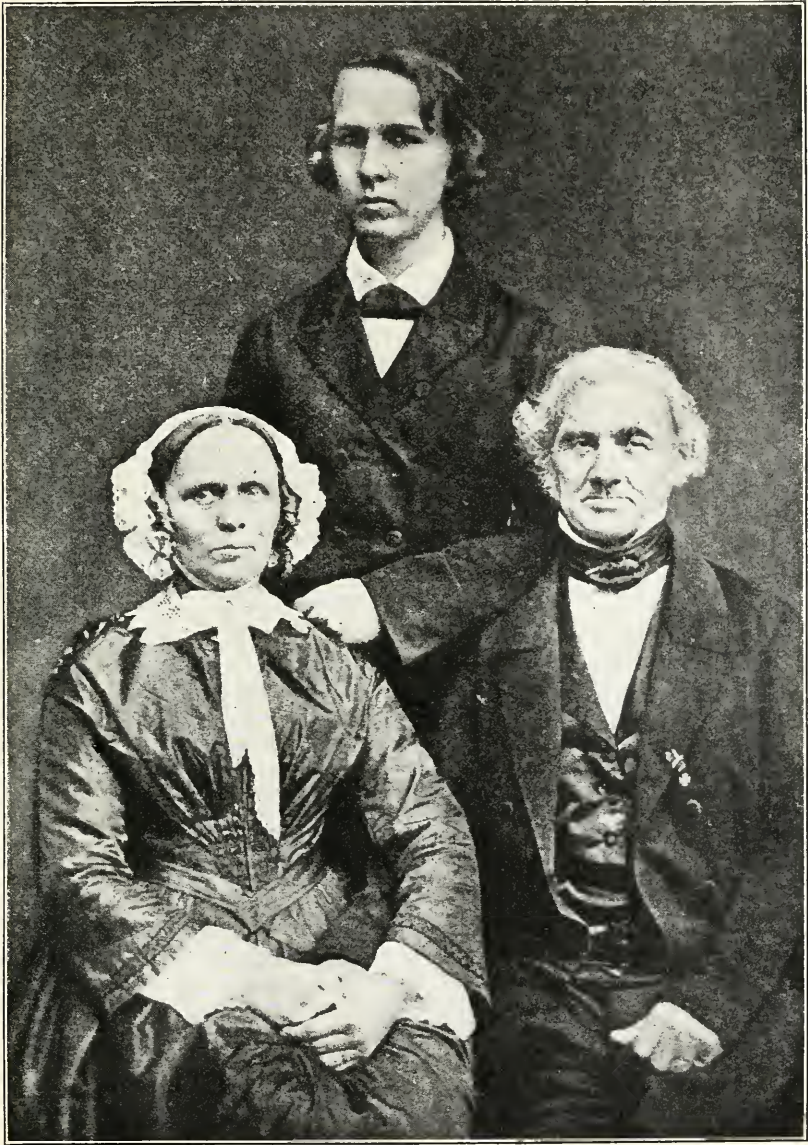
Haeckel claims as his patron saints Goethe, Lamarck and



THE MISSING LINK.

Presented by the artist, Gabriel Max, to Professor Haeckel.

Darwin, and in the spirit of these three great thinkers, he concludes the little book with another quotation from Goethe, thus: "Certainly



HAECKEL AND HIS PARENTS (1852).

there is no more beautiful worship of God than that which wells up in our bosom from a conversation we hold with nature."

An appendix to the book contains schedules in which Haeckel has systematized his views in tabular form.

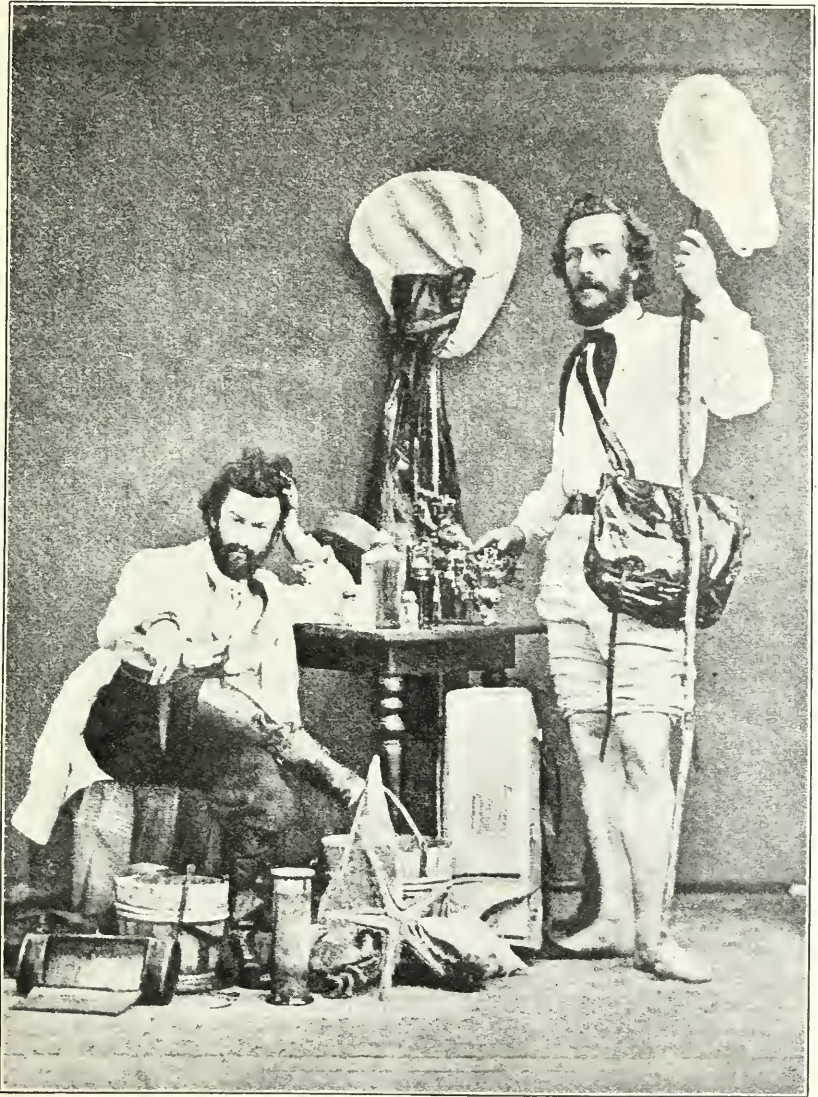
The main contents of what we might call Haeckel's philosophy is contained on pages 36-37 in a little chapter entitled "Trinity of Substance," which reads as follows:

"If we recognize the equal validity of the above-mentioned three laws of constancy [the conservation of matter, of energy, and of the psychoma], and if we regard the three attributes of substance, namely (1) matter, (2) energy, (3) psychoma, as inseparably connected throughout the universe, we arrive at a simple comprehension of the universal concept of substance which brings into harmony the old and yet ever present controversies between materialism, energetics, and panpsychism. The principal error of these three opposed views of nature-philosophy lies in the fact that each of them emphasizes one fundamental principle and deduces the two others from this first one as subordinate principles. Thus the old materialism or the more recent mechanicalism regards matter as the only primitive principle and subordinates to it both energy and feeling. The modern energetics tries to deduce all phenomena from energy (*karma* in Buddhism). Psychomatics or panpsychism (also in a certain sense psychomonism) regards the *psyche* or spirit as the one universal principle and subordinates both matter and energy to this as the first and supreme principle (like the *atman* in the Veda). From this exclusive one-sidedness of the three conceptions of substance originates the eternal conflict for the supreme authority of one of these three fundamental laws.

"Our naturalistic monism (or cosmic hylozoism) avoids this onesidedness by regarding the three fundamental attributes of all substance as inseparably connected, as universally valid (throughout all space) and as indestructible (for all time). Hence it is neither pure materialism, nor absolute energetics, nor unconditioned psychomatics; much rather does it unite these three views into one perfect unity. Thus we attain a clear conception of all phenomena, and this is of supreme importance for the comprehension of their nature. The first cause of all being, of all becoming and passing away, we therefore see in the universal substance, the supreme being of our monistic religion, the All-God or Pantheos. This universal God is eternal and imperishable, infinite in space and time; he is impersonal and unconscious; he rules the world by his 'eternal unyielding great laws.' Devotional minds can find in the adoration and veneration of this universal God as much

satisfaction as does pure reason in a clear comprehension of his nature and operations.”*

Here is the place where we might briefly outline our criticism



ON THE CANARY ISLANDS WITH MIKLUCHO MAKLAY 1867).
of Haeckel's philosophy, and we must be excused for repeating
ourselves:

Without denying the truth of the trinity of substance as matter

and energy and psychoma we understand the situation differently, and must insist that Haeckel has forgotten in this important system that feature of existence which is most prominent of all. It is form.

In order to set forth my views plainly, I must make a few comments on the emptiness of the terms matter and energy. Matter and energy are so often supposed to contain all the riddles of the universe. There are many people who think: "Ah, if we could but know what matter is we would possess a key to all the problems of the world." That is a mistake, for matter is incapable of explaining anything and so is energy.

It is indispensable to make a few introductory remarks on matter and energy; they seem trivial but are important. According to our view existence is an enormous system of activity, and in this activity the thinking person has developed into a sentient and rational being. In philosophical language the thinking activity of a person is called "subject." This subject feels itself to be a body opposed by bodies moving about it. We call them objects. The thinker's own body is also felt to be objective, for one limb touches the other and experiences the same resistance as when touching other objects. The subject consists of sentiments or feelings or sensations or ideas, or longings. It is what Spinoza calls "thought." The objects that surround us are bodily things and their most characteristic feature is resistance.

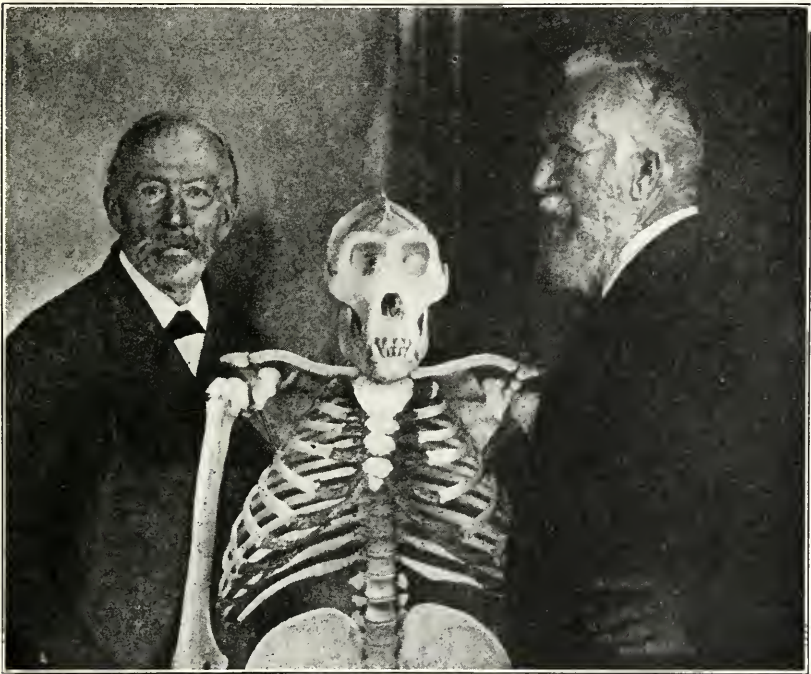
The most appropriate characteristic name for objects is reality, i. e., thingishness, or *Wirklichkeit*, which means activity or something that works. It is possessed of two qualities which are not identical, yet closely interconnected. One of them is objective *existence*, the other is *activity*.

The common name for the quality of objectivity is "matter." The word matter simply denotes that there is something other than the subject, that that something exists independently of our will, and that it opposes us. It is something that resists us, something that objects itself to us; hence we call material things "objects."

"Energy" on the other hand is the general name for everything that moves or changes its place, or changes the relation of its parts. Energy in itself is nothing unless it is a quality of some objects. A mere nothing can not change its place. On the other hand objective existence can not be real (*wirklich*) without manifesting itself in one way or another, and any kind of manifestation is motion. It must move or do something or act to be actual. The two features of existence accordingly are not identical, yet inseparable. They are not identical because energy can be transferred

from one body upon another, but they are inseparable in the sense that neither matter nor energy can exist in itself in a separate state. If they were identical we would not need to distinguish them and materialism and energeticism would mean the same.

There are thinkers who propose to explain the world either as mere energy or as mere matter, making energy an incidental feature of matter or *vice versa*. But the concept "matter" is a mere empty word, simply denoting existence in general, while energy means only the fact of actuality; it means that existence acts some-



GORILLA GIGAS (1898).

how, that it manifests itself. If we consider the meaning of matter and energy, we will understand that neither matter nor energy can explain anything. These two words denote simply that we deal with facts; they mean, the former that something exists, and the latter that something acts. That facts are facts cannot be explained; their existence can only be stated.

Explanations are *always* questions of form. To explain facts does not mean to explain why facts exist as facts, why matter or energy exists, but why these definite facts have arisen from other

facts; why they have assumed their special shape. Thus to explain facts means to describe them and trace their forms from prior forms.

All the problems of science consist in tracing the changes that take place in the sum total of existence, i. e., matter and energy, which on *a priori* grounds can neither increase nor decrease. The sum total of all substance and the sum total of all energy, or in one word the sum total of any kind of existence, remains the same for ever and aye. It has never originated nor can ever be destroyed. This is in Kantian terminology an *a priori* law, because the human mind is incapable of thinking that anything originates from nothing or that anything can turn into nothing. In other words: All the happenings in this world are changes of existing things, and here comes in the salient point through which we learn to appreciate the paramount significance of form.

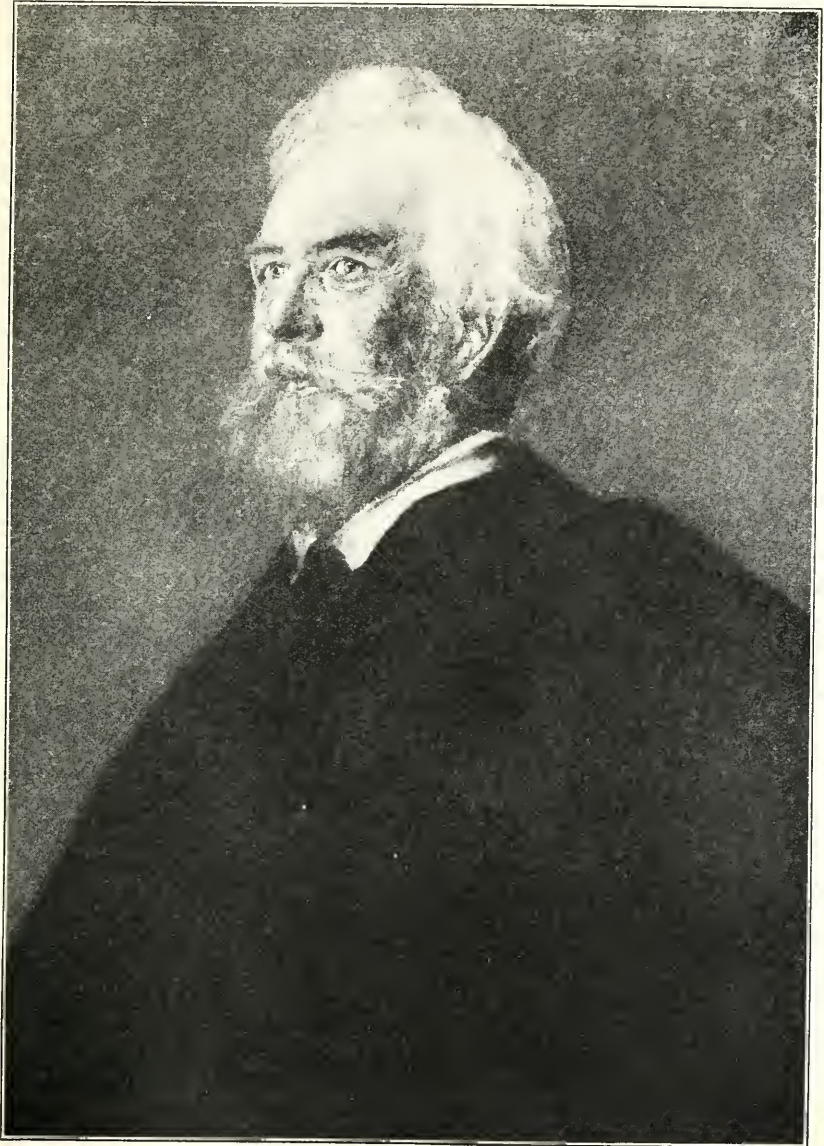
Here lies the wonder of existence; it is the intrinsic and necessary and definite character of form. From the standpoint of the materialist and also of the energeticist form is a mere nonentity and it becomes real only in so far as it consists of matter or as it determines the nature of energy, as it prescribes to energy its course, or form of motion. But the wonder and indeed the only wonder is this, that there are definite laws of form and these laws of form determine the uniformity of nature.

The term "uniformities" is the really correct designation for what commonly in loose and incorrect language is called laws of nature. Given definite conditions, the laws of form shape the course of nature in a definite way and will result in the formation of other forms predetermined by the laws of form.

The strange thing is that a rational being, a being that can think in pure forms, can excogitate the determinant features of forms by pure reflection, without having recourse to sense-experience. A thinker can isolate the notion of pure form through abstraction; he can think away matter and energy; he can build up systems of pure form such as logic, arithmetic, geometry and all other branches of pure thought, and these systems of pure thought do not describe particular conditions of material forms, but lay down merely the interrelations of forms for any kind of conditions, and the anyness of the purely formal sciences serves as a key for systematizing our experience and tracing the uniformities with which we are confronted in nature.

Form accordingly is the most important feature of the objective world, not matter and energy; and the sciences of pure form can be constructed by the thinking subject to the exclusion of the domain

of matter and energy. In this way the subject becomes possessed of the key to understand objective nature. Form and the laws



PORTRAIT BY LENBACH (1899)

of form furnish us with the explanation that is needed to adjust ourselves in this immeasurable domain of existence of which the

single individual and even the totality of all humankind is but a drop in the bucket.

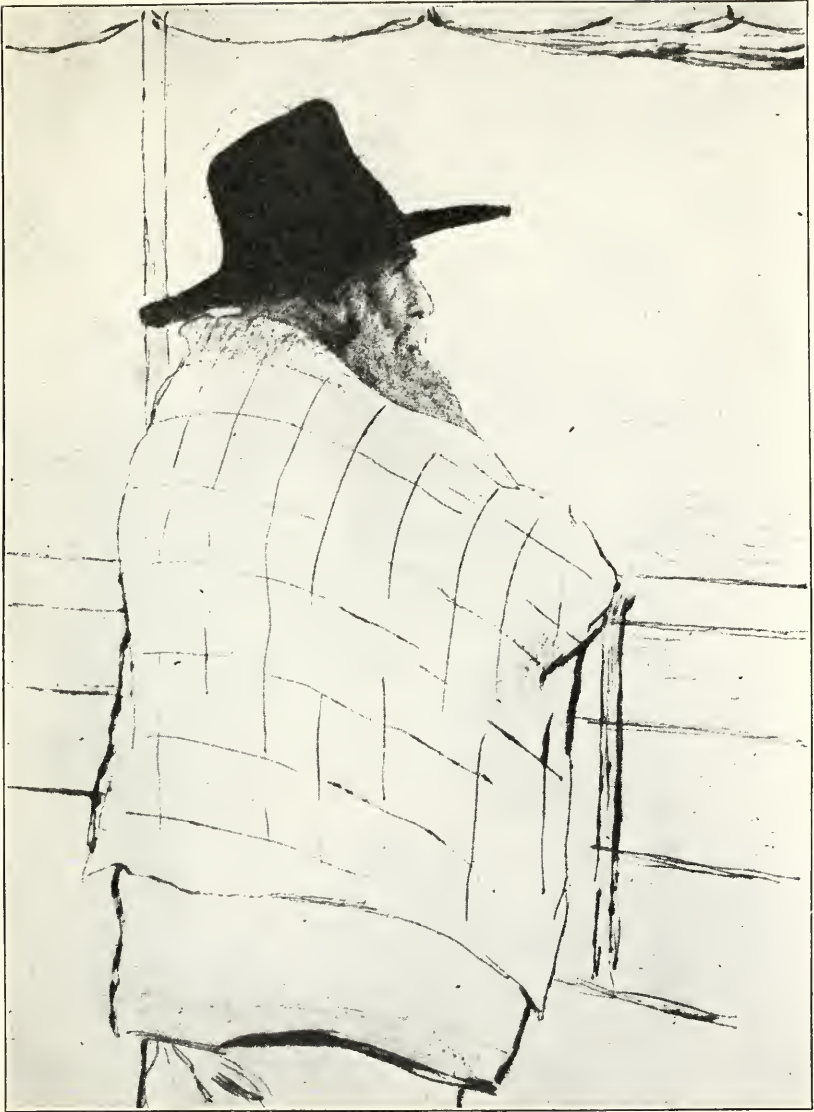
Incidentally we will make here the following remarks to explain that a true monism can be worked out consistently only through a consideration of the nature of form. Form and the laws of form possess the key for comprehending the unity of all existence. Monism is to me not the supremacy of matter, nor of energy nor of the *psychoma* or the spiritual, the psychical or the subjective aspect of nature, nor of all these three in one, but it is the oneness of law which implies the oneness of truth and also the oneness of all existence. This oneness of truth is essential in constituting the oneness of existence which is declared by monism.

The law of the conservation of matter and energy does not mean, as monists sometimes assure us, that the chemical atom is eternal and can never be lost.¹ On the contrary, so far as we must expect *a priori*, we are inclined to believe that the atom is the product of a formation according to some purely formal law. The time may come when the nature of the atom will be explained from its geometrical form by mathematics. Everything that is explicable can be explained only by laws of form. From *a priori* considerations, we must assume that the atom has originated from the primitive universal substance by some strain or force, and that after the unmeasured span of a cosmic period it may disperse again into its original diffusion of the primitive world-stuff, possibly the ether, though its ultimate constituents will retain their intrinsic possibility of a new formation. We may assume that when a planetary system, possibly also when the whole Milky Way system of worlds in which we live, has been dissolved into pure ether or whatever this world-substance may be, it still possesses its intrinsic power of palingenesis, of a new creation that will build up a world according to the same laws of form that shape this world in the life wherein we now take part.

It is noticeable that forms can be considered as pure forms. Who will deny that mathematics has a particular kind of existence in itself? Not as if there were somewhere in a Utopian heaven a world of mathematical theorems, of logarithms, of triangles, of logical notions; or of types, of things, of potentialities; but after all, these forms can be contemplated by themselves, and we can scarcely look upon them as idle non-existences without any significance. They are possibilities and in so far as they are not mere

¹ We read in Dr. L. Frei's *Katechismus der monistischen Weltanschauung* (1914): "*Kein Atom der Materie geht verloren.*"

visions or haphazard inventions of an idle brain, but the necessary and legitimate results of the laws of thought, we call them truths.



ON BOARD THE "KIAUTSCHAU" (1901). Etching by Emil Orlek. They constitute a kind of super-reality which justifies Plato in his belief in ideas—the so-called Platonic ideas—and explains also what the medieval realists meant when they spoke of ideas as being real.

We need not believe that this ideal world of ideas consists of concrete figures like the moulds of creation, as Plato characterizes them, in which God shapes the real things; but we must recognize them as the determinant conditions which shape the world and make things what they are according to the influence under which things originate. Neither can we regard the determinedness of the laws of pure form as the product of a divine mind, for we understand perfectly well that all laws of form are possessed of an intrinsic necessity. The multiplication table has not been excogitated by the schoolmaster, nor has it been made to be such as it is by a god; it has been constructed according to its own intrinsic conditions and can not be different in its intrinsically necessary character; and the same is true of all form.

The possibility of thinking pure forms in their purity has given rise to dualism. The formative factors, being so efficient, have been materialized and even personified; and noticing that forms of feelings are possessed of the faculty of directing and establishing purpose in life, the notion of a kind of substantial existence of spirit has originated. Considering the paramount significance of spiritual life, there is a truth at the bottom of its reality, but spirit is really part and parcel of the whole of reality. It is the resultant of the order and regularity produced by the laws of form, for this order in the realm of subjectivity produces what we call spirit.

It would lead here too far to enter into the detailed exposition of the origin of mind. We have fully and repeatedly set forth our theory of the origin of feeling from the subconscious irritations in the subjective features of existence, and also the origin of mind.² So we need not enter into these problems here. Further, we have explained causation as the law of change, which proves that the law of cause and effect is practically a reverse of the law of the conservation of matter and energy. It states that matter and energy remain the same in quantity, and every event is merely a new grouping of parts which takes place according to the laws of form.

The physical law of uniformities in the inorganic domain has its counterpart in the intellectual and social interrelation of society as well as in the development of individuals, of families and of nations. Definite actions have definite results, and these definite results express themselves as the moral world-order. There is as little chaos in social evolution as in the lower organized and in the

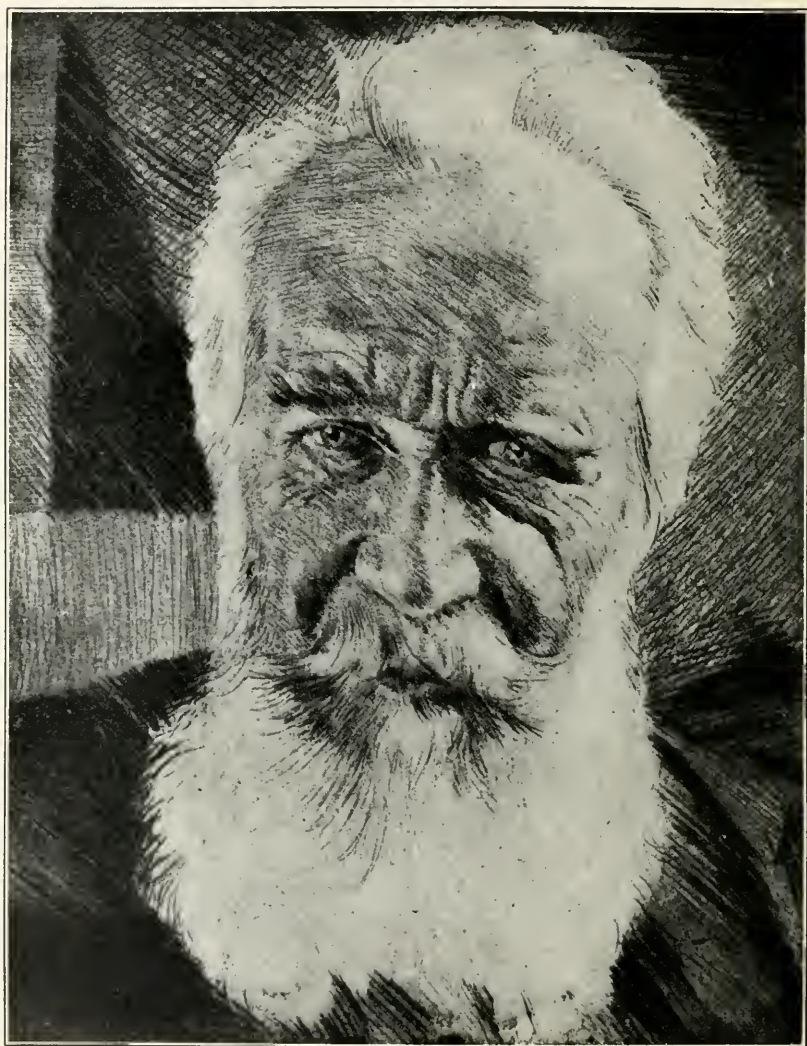
² See especially in *The Soul of Man* the chapters "Feeling and Motion" and "The Origin of Mind," also *The Philosophy of Form*, pp. 20-22.



PORTRAIT BY KARL BAUER.

In the Phylogenetic Museum at Jena (1908).

inorganic domains of cosmic life. Those nations prosper which live in conformity with the laws of nature. There are definite social conditions which produce the best results. The people who obey



ETCHING BY KARL BAUER.

them may have to suffer in the struggle for existence, but in the long run their race will survive and prosper.

For these reasons I do not subscribe to Haeckel's sentence on

page 41, "There is no providence, there is no moral world-order." I would insist that there is a moral world-order, and religious natures have poetically represented it as the providence of a divine being, as the dispensation of God.

Here is another point where I object to the typical monism vigorously represented by Haeckel. It is monistic pantheism. I object to deifying matter and also to deifying energy. Nor can I feel any reverence toward the sum total of matter and energy, be it called Nature or the All or the Pan. Among agnostics it has become customary to capitalize energy and speak of it as the inscrutable Energy in terms of veneration. Energy means to me motion or strain, and what is matter but an amount of mass, viz., volume times weight? There is not the slightest reason why we should bow down in awe before an enormous amount of energy or kneel before a big lump of matter. What we have to revere is the order that shows itself in the cosmic laws forming the Milky Way system in its grandeur with its uncounted suns and planets. We admire the omnipresent order of the universe that at the same time shapes the minute form of an atom and the bulky sphere of a sun, that governs the motion of the motes that hover in the air unnoticed and often unnoticeable to our crude senses and makes comets roam in orderly courses. It is form we admire, and the laws of form reveal to us the secrets of the world.

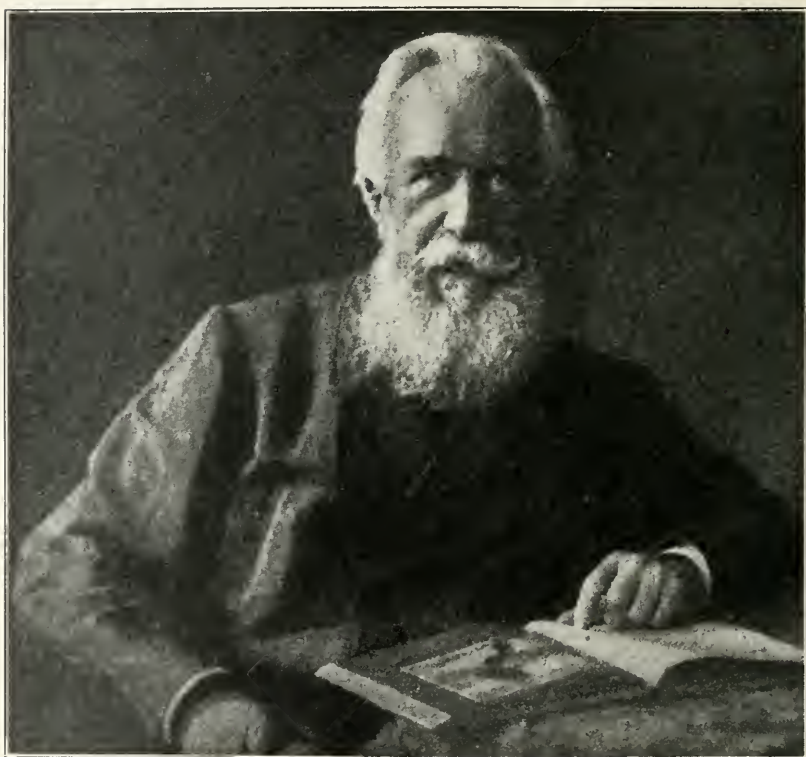
All we can do is forming and re-forming; we can change the quality of existence, not its quantity. The laws of nature are such not only that order prevails in the inorganic domain, but also that life will pursue a definite course of a predetermined order; and from these conditions devolve on us our highest tasks and duties, which are to change conditions so as to make us rise higher and higher in the scale of evolution.

Our reverence is due not to matter and energy, nor to the sum total of nature, but to the general character of the formative in nature, to the whole system of the determinant factors of the truly creative principle that forms the world as a whole and shapes the destinies of every single human being.

Haeckel repeats his principle that there is no moral world order on page 43 in a somewhat modified form, saying, "There is no general world-reason, nor moral world-order valid throughout."

The formative factors of natural laws are in their totality what we understand by "world reason," and we do not doubt that Haeckel in spite of his own declaration believes in a world-reason in

our sense, nor can we understand how he can deny the existence of a moral world-order, if we understand by it the law that determines the welfare of society, the social law that can not be infringed upon with impunity. This moral world-order is just as true as the multiplication table. In my conception of monism, the moral world-order is just as undeniable as any natural law and is as true as any mathematical, geometrical or arithmetical theorem.



Ernst Haeckel

From this standpoint, rational beings will naturally develop wherever the conditions for organized life prevail, and a society of rational beings will bring forth social and religious institutions, states and churches with different forms of government, with creeds and moral codes. The laws of the development of religious beliefs are just as definite as the stages in the growth of plants, and the approximation of religious truths is just as much predetermined

as the slow progress of scientific inquiry: both pass through errors and both have to grapple with errors many of which are un-



IN RAPALLO (1914).

avoidable stations on the road to truth which reveals itself with ever increasing clearness. Astrology has changed into astronomy

and the time is coming, yea, it is near at hand, when even theology will change into theonomy.

These points which I raise here may seem to many monists to be insignificant differences, but they are not. The intellectual life of man, his religious needs and his moral aspirations are facts. The question is not so much to deny their existence as to explain them from a rigorously monistic standpoint.

It is not true that man's life is ended at death, implying that we have no interest in what will happen to us or what will become of our ideas, or what will be the fate of our accomplishments. Death is not an absolute end, and with these considerations we will discover that the old religions have solved these problems in a pragmatic way by expressing great truths in mythological language. Mankind has directly felt the truth of the responsibility for our conduct and our actions, of the continuance of our life after death, of the general standard of conduct, and above all the reverence we feel toward the All of existence, toward the factors that have developed us and continue to guide our future growth. The allegories under which they have been presented are naturally flavored in a dualistic fashion and it is probably on account of this dualism that Haeckel has been induced not to recognize the truth in religious dogmas, but the fact remains that if we follow Haeckel's negativism we are apt to lose the most important truths in the domain of intellectual and moral life.

There is no need to add that my differences with Professor Haeckel do not diminish my admiration for him nor debar me from recognizing the enormous work which he has done in strict science as well as in a popularization of scientific world-conception and I rejoice at the great success he has gained in fighting superstitions. But with all deference to the great champion of monism, the founder of the *Monistenbund*, I deem it necessary to take exception to some of his doctrines, although I feel convinced that so far as his intentions are concerned our differences are purely verbal. I have expressed them from time to time, but Professor Haeckel has never wavered in his kindness and friendliness, and I will conclude therefore by saying frankly and publicly that I am proud of the personal friendship that exists between the venerable octogenarian and myself, almost twenty years his junior.

All honor to the undaunted champion of truth!