

# Rudolf Steiner and Ernst Haeckel

By Daniel Hindes

Rudolf Steiner's curious relationship to Ernst Haeckel has been much remarked upon. Indeed, it has been the subject of several books<sup>1</sup>. Just what did Steiner, of all people, see in the "Pope of Monism"? Rudolf Steiner himself gave an answer, and no one who has gone into any depth on the subject has yet found it necessary to object to Steiner's description. In Haeckel Steiner saw the seeds of a few important ideas, and these he championed. The rest he cared little for but did not speak of this publicly, at least not initially. In examining this question we are really delving into the cultural battles of a bygone era, but this is important in order to understand Haeckel, Steiner, and their cultural milieu.

Mainstream central European thought towards the end of the 19th century was still dealing with the upheavals brought by Darwin and the challenges of natural science to the authority of the Church. In this Austria particularly was a little behind in this struggle. These questions had been widely discussed to a far greater degree in England and the United States by that point in time. Religious dogmatism was still fighting valiantly in Austria for its hold on the mind of the masses. Steiner had a number of objections to religious dogmatism, including the fact that the Church presents its tenets as revealed knowledge, as in: truth, take it or leave it. The static nature of the religious dogmatism was particularly troubling to Steiner. There was no place for the concept of development in the religious beliefs that he encountered.

## Who was Ernst Haeckel?

Ernst Heinrich Philipp August Haeckel was born 1834 in Potsdam, but grew up in Merseburg, just outside of Leipzig. His father was a lawyer and worked for the government. After studying at Würzburg, in 1857 he obtained a medical degree from the University of Berlin under pressure from his family. His own interests were towards Botany and, through his professor Johannes Müller (1801-1858), Zoology.

<sup>1</sup> Among others, Johannes Hemleben, *Rudolf Steiner und Ernst Haeckel*, Stuttgart 1965 and Karl Ballmer, *Rudolf Steiner und Ernst Haeckel*, Hamburg 1929, as well as just about every biographer who has dealt with Steiner in any depth.

Müller was an anatomist and physiologist, and it was with him that Haeckel did field work, observing small sea creatures on the north German coast. Haeckel opened his medical practice, but he was not enthusiastic about it.

Reading Darwin's *Origin of the Species by Means of Natural Selection* was an important event in his life. He went back to school in Jena, studying under Carl Gegenbauer and then became professor of comparative anatomy there in 1862. Haeckel's early scientific work was in the area of invertebrates. Well regarded to this day for his fieldwork, he named thousands of new species from 1859 to 1887. It was out of this work that Haeckel developed a number of the ideas for which he is known, including his law of recapitulation: ontogeny recapitulates phylogeny<sup>2</sup>. This thesis is also known as the Biogenetic Law, and states that the development of an embryo and the stages of growth of the young of a species repeat the evolutionary development of that species. Haeckel was quite quotable, and has left as a legacy to biology such words as phylum, phylogeny and ecology – "oekologie" which he created from the Greek root *oikos* to refer to the relationship of an animal to its organic and inorganic environment.

Haeckel was deeply impressed with Darwin's *Origin of the Species by Means of Natural Selection*. While he deprecated the idea of natural selection as the mechanism of evolution, he was enthusiastic about the concept of biological evolution itself. In his 1862

<sup>2</sup> From Ernst Haeckel. *Riddle of the Universe at the Close of the Nineteenth Century*. 1899. as cited in "Haeckel, Ernst Heinrich." Encyclopedia Britannica. 1911. 1911Encyclopaedia.org. 24 Jan. 2004.

<<http://46.1911encyclopedia.org/H/HA/HAECKEL.htm> >

"I established the opposite view, that this history of the embryo (ontogeny) must be completed by a second, equally valuable, and closely connected branch of thought - the history of race (phylogeny). Both of these branches of evolutionary science, are, in my opinion, in the closest causal connection; this arises from the reciprocal action of the laws of heredity and adaptation... 'ontogenesis is a brief and rapid recapitulation of phylogenesis, determined by the physiological functions of heredity (generation) and adaptation (maintenance).'"

monograph on *Radiolaria* he placed Darwin's concept in a central role, and in his 1866 book *General Morphology* he attempted to work out the practical implications of evolutionary theory in a general way. Haeckel's *General morphology* did not sell very well, so Haeckel rewrote the concepts in a more popular form and published the results in an 1868 book called *The Natural History Of Creation* (Natürliche Schöpfungsgeschichte). This along with an active lecturing and writing career led him to become the leading proponent of evolution in German-speaking countries. It is important to note that although Haeckel was a proponent of Evolution, he was not technically a Darwinian because he did not believe that natural selection was the method by which evolution progressed. This deprecation of the concept of natural selection as the mechanism of forward progress of evolution Haeckel had in common with Rudolf Steiner, another strong proponent of evolution, although of a more spiritual kind.<sup>3</sup> Haeckel's view was more in the tradition of Lamarck; he felt that environmental influences acted upon organisms to create differentiation.

Haeckel's efforts on behalf of evolution went well beyond merely scientific endeavors. He wrote profusely on many non-scientific subjects. While still considered quite competent as an invertebrate anatomist, most of his speculative writings have come to be regarded as mistaken. These speculative writings branch out into areas such as anthropology, psychology (which he proposed be considered a branch of physiology), ethics, theology, politics, and cosmology. His was a systematic and synthesizing mind and he was unafraid to go boldly where the evidence would barely support him. One area of speculation was how organic matter arose from inorganic matter, or the origin of life. Having studied the rather crystalline *Radiolaria*, Haeckel arrived at the conclusion that a process of crystallization had produced organic life forms from inorganic matter in a spontaneous process. He posited the existence of a "monera" or protoplasm without nuclei, as the common ancestor of all organic life forms. Evidence of such a creature has not yet been found, and most biologists doubt it ever will be.

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<sup>3</sup> See Rudolf Steiner. [The Theory of Knowledge Implicit in Goethe's World Conception](#). GA2, Chapter 1, part 16 for a full discussion of adaptation and natural selection from Steiner's perspective.

This courage to fill gaps in scientific knowledge with intuitions was typical of Haeckel. He was the first to attempt a systematic genealogical tree showing the evolution of higher life forms from lower ones, filling in the gaps where necessary. He perfected and elaborated his genealogical tree over decades. While some particulars have changed from Haeckel's time, his basic outline remains essentially intact, and the concept of an evolutionary tree is central to modern biology.

Haeckel's popular presentation of evolution in German-speaking countries and his eminently quotable prose led him to become a nineteenth-century celebrity. He appeared to enjoy this role greatly, and seemed encouraged by this to take on the greater philosophical questions, as well as rattle the chains of old church dogma with great enthusiasm. His speculative writings saw a culmination in his 1899 book *The Riddle Of The Universe* (Die Welträtsel). In this book he elaborated a comprehensive philosophical system based upon his biological and evolutionary findings. Here he contemplated the philosophical implications and theological consequences of organic evolution. Ultimately he saw not qualitative but only quantitative differences between self-conscious human beings and other highly evolved mammals. His was a philosophy of Monism - namely a belief that the universe is ultimately a differentiation of a single type of substance.<sup>4</sup>

Haeckel's work was very influential in his lifetime and for some time thereafter. His efforts were a significant factor in the wider acceptance of the theory of evolution in central Europe, and his more philosophical works were a subject of much debate in intellectual circles for decades. Parts of his philosophical works show the influence of the negative traits of his time period, and these in particular were exploited by admiring national socialists. In Haeckel they found justifications for a eugenic policy is based on Social Darwinism, for racism, and for nationalism. Haeckel's quote "politics

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<sup>4</sup> As a philosophy, Monism stands in obvious opposition to Dualism. Whereas Dualists see a fundamental differentiation between mind and body, the simple forms of Monism claim that the world is entirely one thing, either material, in which case it is called Philosophical Materialism, or that is entirely mental or spiritual, called Philosophical Idealism.

is applied biology" was taken to its logical conclusion under Hitler.

Creationists have found Haeckel a favorite target because of errors both small and large in the various parts of his scientific work.

While Haeckel's "law of recapitulation" (ontology recapitulates phylogeny) has been boldly declared disproved for much of the 20th century, a comprehensive understanding, as usual, shows that such a statement is overly simple. An unsigned presentation on the University of California at Berkeley's Evolution website revisited the idea recently:

"The 'law of recapitulation' has been discredited since the beginning of the twentieth century. Experimental morphologists and biologists have shown that there is not a one-to-one correspondence between phylogeny and ontogeny. Although a strong form of recapitulation is not correct, phylogeny and ontogeny are intertwined, and many biologists are beginning to both explore and understand the basis for this connection."<sup>5</sup>

### **Haeckel and Fascism**

Haeckel's philosophy, like the Social Darwinism of Spencer, easily lent itself to use as a justification for certain political policies, and was especially favored by the National Socialists. Haeckel's own statement, "politics is applied biology" shows that Haeckel himself was not unaware of the possibilities, or averse in principle to such an application of his ideas. That Haeckel and his Monist philosophy were in application politically reactionary and provided important justification to National Socialism does not, in itself, mean that every idea of Haeckel's is necessarily tainted. And if we examined carefully exactly which aspects of Haeckel's work Rudolf Steiner admired, it becomes clear that these aspects were not the ones that National Socialists favored.

### **Rudolf Steiner's Relationship to Haeckel**

Steiner's view of Haeckel was more or less consistent throughout his lifetime. In public Steiner expressed himself carefully about certain aspects of Haeckel's thought while maintaining a silence concerning other portions with which he disagreed. Privately, he was

considerably more direct about his opinions. The following quote is probably the most concise summary of Steiner's views. It was written by Steiner for Eduard Schuré, a writer and publicist for esotericism and author of the book *The Great Initiates*. Schuré was at that point an admirer of Steiner's, and had asked for information about Steiner's intellectual and spiritual background. The answer was several pages, written by Steiner in Barre, Alsace (France), in 1907 when Steiner was 46, and today referred to as "The Barre Document".

"And not long afterwards Haeckel's 60th birthday took place, celebrated with great festivity in Jena. Haeckel's friends invited me. I saw Haeckel for the first time on that occasion. His personality is enchanting, and stands in complete contrast to the tone of his writings. If, at any time, he had studied even just a small amount of philosophy, in which he is not merely a dilettante but a child, he would quite surely have drawn the highest spiritual conclusions from his epoch-making phylogenetic studies.

"Now, in spite of all German philosophy, in spite of all the rest of German culture, Haeckel's phylogenetic idea is the most significant event in German intellectual life in the latter half of the nineteenth century. And there is no better scientific foundation to esotericism than Haeckel's teaching. Haeckel's teaching is exemplary, but Haeckel is the worst commentator on it. Culture is not served by exposing Haeckel's weaknesses to his contemporaries, but by explaining to them the greatness of his phylogenetic concept. This I now did in my two volumes: 'Thinking in the 19th Century' which is dedicated to Haeckel, and the little publication, 'Haeckel and his Opponents'.

"At present, German spiritual life really exists only in Haeckel's phylogeny; philosophy is in a state of hopeless unproductiveness, theology is a web of hypocrisy which is not aware in the slightest of its dishonesty, and the sciences have fallen into the most barren philosophical ignorance in spite of great empirical progress."<sup>6</sup>

These paragraphs are essential for understanding Steiner's view of Haeckel. Haeckel's phylogenetic

<sup>5</sup> From <http://www.ucmp.berkeley.edu/history/haeckel.html>

<sup>6</sup> Rudolf Steiner and Marie Steiner. Correspondence and Documents: 1901-1925. New York: Rudolf Steiner Press, 1988. Page 13.

concept is extraordinarily valuable, but Haeckel himself is the worst advocate for this concept.<sup>7</sup> Further, the quote "culture is not served by exposing Haeckel's weaknesses to his contemporaries" is essential in understanding Steiner's failure to criticize the more ridiculous aspects of Haeckel's Monist philosophy. This failure to criticize has led more than one thinker to conclude that Steiner was in full agreement with these more ridiculous aspects. However, a more careful reading of Steiner's actual "praise" will show how narrowly directed it actually is.

"I cannot speak of Lyell or Darwin without thinking of Haeckel. All three belong together. What Lyell and Darwin began, Haeckel took further. He expanded it in full consciousness, to serve not only the scientific needs but also the religious consciousness of mankind. He is the most modern spirit, because his Weltanschauung (view of the world) does not cling to any of the old prejudices, such as was still the case, for example, with Darwin. He is the most modern thinker, because he sees the natural as the only realm for thinking, and he is the most modern in sensibility, because he wants to know life as organized in accordance with the natural. ... When Haeckel talks with us about the processes of Nature, every word has a secondary meaning for us that is related with our feeling. He sits at the rudder, and steers powerfully. Even when many of the places towards which he steers us are ones we would rather not go past; still, he has the direction in which we want to go. From Lyell and Darwin's hands he took the handle of the rudder, and they could have given it to no one better. He will pass it on to others that will travel in his direction. And our community sails rapidly forwards, leaving behind the helpless ferrymen of the old Weltanschauungs."<sup>8</sup>

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<sup>7</sup> This position Steiner reiterated in a letter to Marie von Sievers: "Haeckel contains things which must be thrown away as a cultural afterbirth. His positive side is like an embryo which is wrapped in the materialistic womb of the 19th century. But I see Haeckel's positive aspects as something which can develop. There are two forms of thinking in our time; on the one hand the developing, embryonic one: Haeckel in zoology; Schiller-Goethe must fertilize this form. ..."

Rudolf Steiner and Marie Steiner. *Correspondence and Documents: 1901-1925*. New York: Rudolf Steiner Press, 1988. Page 60.

<sup>8</sup> Rudolf Steiner. *Methodische Grundlagen der Anthroposophie*. Dornach: Verlag der Rudolf Steiner Nachlassverwaltung, 1961. Page 364. (GA 30 – Translation by Daniel Hindes)

Haeckel is praised for being a modern thinker – for the processes of his thought and for his general direction, and not for any specific results. Steiner also speaks of the feeling that Haeckel's contemporaries (and Steiner includes himself) have about Haeckel's work. And Steiner states that Haeckel's general direction is correct, even as he registers his metaphorical reservations to some of Haeckel's specific conclusions.

Besides the Law of Recapitulation, Steiner valued Haeckel's actual courage to think beyond the narrow confines of his specialty and grapple with the deeper questions of existence. Whether Haeckel's results were correct or not was immaterial to Steiner; the effort was rare and deserved praise.

"Then for the first time I saw in Haeckel the person who placed himself courageously at the thinker's point of view in natural science, while all other researchers excluded thought and admitted only the results of sense-observation. The fact that Haeckel placed value upon creative thought in laying the foundation for reality drew me again and again to him."<sup>9</sup>

Haeckel dared to use creative thought, and even if the results of this thought ended up being philosophical dilettantism or worse, Steiner admired the attempt. And Steiner was quite clear on how he disagreed with Haeckel:

"I believe [Haeckel] never knew what the philosophers wished from him. This was my impression from a conversation I had with him in Leipzig after the appearance of his *Riddle of the Universe*, ... He then said: "People say I deny the spirit. I wish they could see how materials shape themselves through their forces; then they would perceive 'spirit' in everything that happens in a retort. Everywhere there is spirit." Haeckel, in fact, knew nothing whatever of the real Spirit. The very forces of nature were for him the 'spirit,' and he could rest content with this."<sup>10</sup>

Haeckel himself thought his philosophical work was an Idealistic Monism and not a Materialistic Monism, but this, felt Steiner, was a misunderstanding on

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<sup>9</sup> Rudolf Steiner. *The Course of My Life*. Chapter 30

<sup>10</sup> Rudolf Steiner. *The Course of My Life*. Chapter 30.

Haeckel's part concerning the true nature of philosophical Idealism.

Steiner also valued Haeckel's specifically scientific work, including Haeckel's morphology. Two quotes from among many will illustrate this. In a 1916 lecture Steiner said:

"Here I should like to state emphatically that I cherish the same high respect today for Haeckel's magnificent scientific achievements within the cosmic scheme, proper to natural science, as I did years ago. I still believe and always have believed that a correct appreciation of Haeckel's achievements is the best means of transcending a certain one-sidedness in his views. It is entirely intelligible that he could not attain to this insight himself."<sup>11</sup>

This reiterates a continual theme in Steiner's work. In 1908 he said essentially the same thing in another lecture:

"Haeckel does not err when explaining by the laws of materialistic morphology phenomena of which he has exceptional knowledge; if he had confined himself to a certain category of phenomena he could have performed an enormous service to humanity."<sup>12</sup>

And Steiner recommended studying Haeckel as an exercise and prerequisite for seeking spiritual vision:

"If you are touched by the Rosicrucian principle as here intended, study the system of Haeckel, with all its materialism; study it, and at the same time permeate yourselves with the methods of cognition indicated in *Knowledge of Higher Worlds and its Attainment*. Take what you learn in Haeckel's *Anthropogenesis: on the Ancestors of Man*. In that form it may very likely repel you. Learn it nevertheless; learn all that can be learned about it by outer Natural Science, and carry it towards the Gods; then you will get what is related about evolution in my *Occult Science*."<sup>13</sup>

So Steiner valued Haeckel's work in a number of contexts, and Haeckel's efforts in general, but by no means subscribed to all of Haeckel's views.

All of the quotes so far have been from Steiner's Anthroposophical period. Did Steiner always think of Haeckel this way, or was he once completely under the sway of Haeckel's philosophy as has been alleged by some critics attempting to paint Steiner as inconsistent?

### **Why did Steiner dedicate a book to Haeckel?**

Just two years before stepping forward as an initiate Rudolf Steiner completed a systematic survey of philosophical thought in the nineteenth century and dedicated it too, of all people, Ernst Haeckel. Haeckel himself a just finished his the book and considered himself a philosopher as well as a scientist. Later as he published books such as *Theosophy*, Rudolf Steiner found himself in the position of having to defend this dedication, as it was considered inconsistent with Anthroposophy as Steiner was attempting to unfold it. In the preface to his book *An Outline Of Esoteric Science* Rudolf Steiner noted:

A reader of the author's earlier writings — for example his work on nineteenth century philosophies or his short essay on *Haeckel and his Opponents* — might well be saying: 'How can one and the same man be the author of these works and of the book *Theosophy* (published in 1904) or of the present volume? How can he take up the cudgels for Haeckel and then offend so grossly against the straightforward monism, the philosophic outcome of Haeckel's researches? One could well understand the writer of this Occult Science attacking all that Haeckel stood for; that he defended him and even dedicated to him one of his main works appears preposterously inconsistent. Haeckel would have declined the dedication in no uncertain terms, had he known that the same author would one day produce the unwieldy dualism of the present work.' Yet in the author's view one can appreciate Haeckel without having to stigmatize as nonsense whatever is not the direct outcome of his range of thought and his assumptions. We do justice to Haeckel by entering into the spirit of his scientific work, not by attacking him — as has been done — with every weapon that comes to hand. Least of all does the author hold any brief for those of

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<sup>11</sup> Human Life in the Light of Spiritual Science Liestal, October 16, 1916

GA 35

<sup>12</sup> Macrocosm and Microcosm, Lecture 9

<sup>13</sup> GA233a Lecture: 13th January, 1924

Haeckel's adversaries against whom he defended the great naturalist in his essay on *Haeckel and his Opponents*. If then he goes beyond Haeckel's assumptions and placed the spiritual view side by side with Haeckel's purely naturalistic view of the Universe, this surely does not rank him with Haeckel's opponents. Anyone who takes sufficient trouble will perceive that there is no insuperable contradiction between the author's present work and his former writings.<sup>14</sup>

And so Steiner himself states the essence of the argument: it is possible to appreciate Haeckel without agreeing with him, and it is possible to disagree with Haeckel without agreeing with all the others who disagree with him. 100 years later the exact same objections are still being raised to Steiner's work in relationship to Ernst Haeckel.

Steiner dedicated a book to Haeckel because he appreciated Haeckel's efforts and found some very useful aspects in them. He was not then, nor was he ever, in complete agreement with everything Haeckel said. That this fact continues to be ignored by so many critics of Anthroposophy speaks either to their ignorance of Steiner and his work or to a deliberate distortion thereof.

### **Appendix 1: Steiner's description of his meeting with Ernst Haeckel:**

I had at first no occasion to become personally acquainted with Haeckel, about whom I was impelled to think very much. Then his sixtieth birthday came. I was invited to share in the brilliant festival which was being arranged in Jena. The human element in this festival attracted me. During the banquet Haeckel's son, whom I had come to know at Weimar, where he was attending the school of painting, came to me and said that his father wished to have me presented to him. The son then did this.

Thus I became personally acquainted with Haeckel. He was a fascinating personality. A pair of eyes which looked naïvely into the world, so mild that one had the feeling that this look must break when the sharpness of thought penetrated through. This look could endure only sense-impressions, not thoughts

which reveal themselves in things and occurrences. Every movement of Haeckel's was directed to the purpose of admitting what the senses expressed, not to permit the ruling thoughts to reveal themselves in the senses. I understood why Haeckel liked so much to paint. He surrendered himself to physical vision. Where he ought to have begun to think, there he ceased to unfold the activity of his mind and preferred to fix by means of his brush what he had seen.

Such was the very being of Haeckel. Had he merely unfolded this, something human unusually stimulating would have been thus revealed.

But in one corner of his soul something stirred which was wilfully determined to enforce itself as a definite thought content – something derived from quite another attitude toward the world than his sense for nature. The tendency of a previous earthly life, with a fanatical turn directed toward something quite other than nature, craved the satisfaction of its passion. Religious politics vitally manifested itself from the lower part of the soul and made use of ideas of nature for its self-expression.

In such contradictory fashion lived two beings in Haeckel. A man with mild love-filled sense for nature and in the background something like a shadowy being with incompletely thought-out, narrowly limited ideas breathing out fanaticism. When Haeckel spoke, it was with difficulty that he permitted the fanaticism to pour forth into his words; it was as if the softness which he naturally desired blunted in speech a hidden demonic something. A human riddle which one could but love when one beheld it, but about which one could often speak in wrath when it expressed opinions. Thus I saw Haeckel before me as he was then preparing in the nineties of the last century what led later to the furious spiritual battle that raged over his tendency of thought at the turning-point between the centuries.<sup>15</sup>

### **Appendix 2: Some other Statements of Steiner's concerning Haeckel and his work:**

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<sup>14</sup> Preface to Theosophy

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<sup>15</sup> Rudolf Steiner. The Course of My Life. Chapter 15

Describing his relationship to Haeckel's philosophy in his autobiography:

"Thus the natural-scientific evolutionary succession, as represented by Haeckel, never constituted for me something wherein mechanical or merely organic laws controlled, but as something wherein the spirit led the living being from the simple through the complex up to man. I saw in Darwinism a mode of thinking which is on the way to that of Goethe, but which remains behind this."<sup>16</sup>

## 2.

In his autobiography Steiner also attempts to show how he continually maintained his intellectual independence from Haeckel:

"The other lecture I gave in Vienna at the invitation of the Scientific Club. It dealt with the possibility of a monistic conception of the world on the basis of a real knowledge of the spiritual. There I set forth that man by means of his senses grasps the physical side of reality "from without" and by means of his spiritual awareness grasps its spiritual side "from within," so that all which is experienced appears as an unified world in which the sensible manifests the spirit and the spirit reveals itself creatively in the sensible.

This occurred at the time when Haeckel had formulated his own monistic philosophy through his lecture on *Monismus als Band Zwischen Religion und Wissenschaft* (Monism as a bond between religion and science). Haeckel, who knew of my being in Weimar, sent me a copy of his speech. I reciprocated his courtesy by sending him the issue of the newspaper in which my lecture at Vienna was printed. Whoever reads this lecture must see how opposed I then was to the monism advanced by Haeckel when occasion rose for me to express what a man has to say about this monism for whom the spiritual world is something into which he sees.

But there was at that time another occasion for me to give thought to monism in the colouring given it by Haeckel. He seemed to me a phenomenon of the scientific age. Philosophers saw in Haeckel the philosophical dilettante, who really knew nothing except the forms of living creatures to which he applied the ideas of Darwin in the order in which he had rightly arranged them, and who explained boldly that nothing further is required for the forming of a

world-conception than what can be grasped by a Darwinian observer of nature. Students of nature saw in Haeckel a fantastic person who drew from natural-scientific observations conclusions which were arbitrary.

Since my work required that I should realize what was the inner temper of thought about the world and man, about nature and spirit, as this had been dominant a hundred years earlier in Jena, when Goethe interjected his natural-scientific ideas into this thought, I saw in Haeckel an illustration of what was then thought in this direction. Goethe's relation to the views of nature belonging to his period I had to visualize inwardly in all its details during my work. At the place in Jena from which came the important stimulations to Goethe to formulate his ideas on natural phenomena and the being of nature, Haeckel was at work a century later with the assertion that he could draw from a knowledge of nature the standard for a conception of the world.

In addition it happened that, at one of the first meetings of the Goethe Society in which I participated during my work at Weimar, Helmholtz read a paper on *Goethes Vorahnungen kommender naturwissenschaftlicher Ideen* (the Goethe's prescience of coming natural scientific ideas). I was then informed of much in later natural-scientific ideas which Goethe had "previsioned" by reason of fortunate inspirations; but it was also pointed out how Goethe's errors in this field bore upon his theory of colour.

When I turned my attention to Haeckel, I wished always to set before my mind Goethe's own judgment of the evolution of natural-scientific views in the century following that which saw the development of his own; as I listened to Helmholtz I had before my mind the judgment of Goethe by this evolution.

I could not then do otherwise than say to myself that, if one thought of the being of nature in the dominant spiritual temper of that time, that must necessarily result which Haeckel thought in utter philosophical naïveté; those who opposed him showed everywhere that they restricted themselves to mere sense-perception and would avoid the further evolution of this perception by means of thinking."<sup>17</sup>

## 3.

Writing in *The Theory of Knowledge Implicit in Goethe's World Conception*, Rudolf Steiner said:

<sup>16</sup>Rudolf Steiner. *The Course of My Life*. Chapter 30.

<sup>17</sup>Rudolf Steiner. *The Course of My Life*. Chapter 15

"A look at the views of Haeckel, who is certainly the most significant of the natural-scientific theoreticians of the present day, shows us that the objection we are making to the organic natural science of our day is entirely justified: namely, that it does not carry over into organic nature the principle of scientific contemplation in the absolute sense, but only the principle of inorganic nature. When he demands of all scientific striving that "the causal interconnections of phenomena become recognized everywhere," when he says that "if psychic mechanics were not so infinitely complex, if we were also able to have a complete overview of the historical development of psychic functions, we would then be able to bring them all into a mathematical soul formula," then one can see clearly from this what he wants: to treat the whole world according to the stereotype of the method of the physical sciences." <sup>18</sup>

#### 4.

In Steiner's book Philosophy of Freedom, Haeckel is mentioned:

"Ethical individualism then, is not in opposition to an evolutionary theory if rightly understood, but is a direct continuation of it. It must be possible to continue Haeckel's genealogical tree, from protozoa to man as organic being, without interruption of the natural sequence, and without a breach in the uniform development, right up to the individual as a moral being in a definite sense. But never will it be possible to deduce the nature of a later species from the nature of an ancestral species. True as it is that the moral ideas of the individual have perceptibly evolved out of those of his ancestors, it is also true that an individual is morally barren if he himself has no moral ideas." <sup>19</sup>

#### 5.

The theme of the general accuracy of Haeckel's phylogenetic trees came up often in Steiner's early lectures. This is one example:

"Theosophical cosmology is a self-contained whole, derived from the wisdom of the most developed seers. If I had a little more time I would be able to indicate to you how certain natural scientific facts are conducive to testifying to the accuracy of this image

of the world. Look at Haeckel's famous phylogenetic trees, for example, in which evolution is materialistically explained. If instead of matter you consider the spiritual stages, as Theosophy describes them, then you can make the phylogenetic trees as Haeckel did — only the explanation is different." <sup>20</sup>

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<sup>19</sup> Philosophy of Freedom, Part 12

<sup>20</sup> GA89 Lecture: 9th June, 1904