Evolution caught between intelligent design /creationism and mainstream science[1, 2]

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Within the anthroposophical world view, evolution of 'mind and body' is a fundamental notion. Rudolf Steiner (1861– 1925) hailed Charles Darwin's (1809 – 1882) findings as very important, and, in the context of the time, rightly so as it clearly made a case for evolution. In this article I want to focus on the clashes between the view held by mainstream science and those who have a different opinion on the subject of evolution, and in particular of the beginnings.

Thomas Huxley (1825–1895, Great Britain) and Ernst Haeckel (1834– 1919, Germany) postulated that the human being is descended from the great apes at some time in the past. Initially Darwin didn't go that far in his writings. At the end of 'The Origin of Species' (1859)[3] he writes (p 429):

"Thus, from the war of nature, from famine and death, the most exalted object which we are capable of conceiving, namely, the production of the higher animals, directly follows. There is grandeur in this view of life, with its several powers, having originally being breathed by the Creator into a few forms or into one; and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning, endless forms most beautiful and most wonderful have been, and are being evolved."[4]

In the last chapter of 'Descent of Man'[5] (1871, Chapter 21, par 2), Darwin writes:

"The main conclusion here arrived at, and now held by many naturalists who are well competent to form a sound judgment is that man is descended from some less highly organised form. The grounds upon which this conclusion rests will never be shaken, for the close similarity between man and the lower animals in embryonic development, as well as in innumerable points of structure and constitution, both of high and of the most trifling importance, - the rudiments which he retains, and the abnormal reversions to which he is occasionally liable, - are facts which cannot be disputed.

Fossil records had been studied long before Darwin and had given rise to the notion of an ordered past; fossils of trilobites[6] (fig.1) were found in older earth strata than those of Archaeopteryx lithographica (fig.2)[7] (discovered in 1861 in south Germany).

fig 1. An exceptionally well preserved trilobite from Beecher's Trilobite Beds. Segmented legs are clearly visible. At this Lagerstätten soft body parts are preserved by pyrite. (540 – 230 Mya[8]).

1 It is inevitable that in an article like this generalisations will occur; just as there are mainstream scientists who do not subscribe to the physicalist view (see 15) there will be intelligent design adheres or creationists who accept evolution in some form.
2 For the purpose of this article I'll accept the conventional view on the geological time line, as that view is not material to the following.
3 Darwin, Ch The Origin of Species 1995 (1st ed 1859), p429 Studio Editions.
4 He could be called a creationist 'avant la lettre'.
5 Darwin, Ch, Descent of man, 1871.
6 http://en.wikipedia.org/wiki/Trilobite
7 http://en.wikipedia.org/wiki/Dinosaur
8 Mya = million years ago

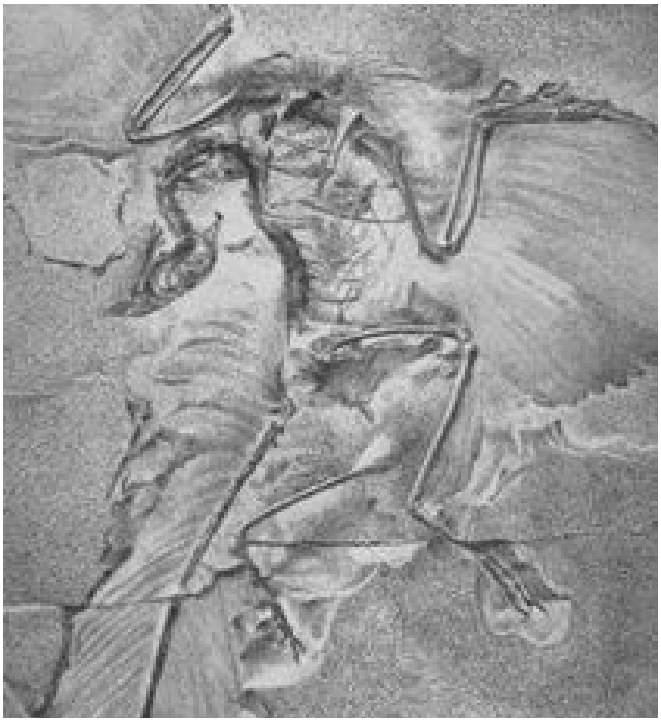

fig 2. The famous Berlin Specimen of Archaeopteryx lithographica (230 – 65 Mya)

The notion of development too; Empedocles (~450 BCE) mentions it and so do various later scholars. The idea of development as opposed to the creation of various 'finished' species gained more prominence in the 18th and 19th centuries. Darwin published his 'Origin of Species' in 1859. Haeckel in 1868 and Huxley in 1869 state that the human being is descended from a common ancestor of the human and the apes, ie the human being is a mammal amongst many others; Haeckel called this common ancestor *Pithecanthropus alalus*[9], and predicted it would be found in Indonesia[10].

Towards the end of the 19th century many scientists were at ease with the view that one could see a progressive development in the animal (and plant) kingdom; the view that each species had been created 'ex deo' was held, and still is held, by many religious people of the Christian, Islamic and Judaic faiths.

And this is the point where the controversy has its anchor: did life start through an act of a creator or did it come about by chance[11]? Using the word creator not only assumes a non-physical entity, but also an intelligent one and implies a plan, an idea that hopefully, will be realised in the fullness of time. It is of course all too possible that this assumption is wrong, and we're dealing with a creator-being acting on a whim, without a plan.

The current controversy[12] between intelligent design/creationism and materialism basically revolves around one's 'world view': the basic assumptions and beliefs one has about everything concerning our world. The notion of evolutionary development as such is not at issue, even most creationists recognise a progression in the later created creatures compared with those of earlier creations.

Mainstream science holds that we can reduce all phenomena (emphasis on all) of the world surrounding us, by applying the laws of nature to inanimate objects. As long as we confine ourselves to the realm of the non-living this view doesn't seem very controversial. For the adherents of this view, the world we know, with everything belonging to it, is the result of random processes and chance; there is no underlying plan, no goal to be achieved. For the purpose of this article I'll use the term 'physicalism' for this view[14].

The view held by intelligent design/creationism adherents, that the world we know with everything belonging to it, has, as its cause, the act of a non-physical entity. As mentioned above, this implies at best, an initial concept of what is to be achieved and a plan how to achieve this, at worst a whim of the moment. For the purpose of this article I'll use the term 'non-physicalism'[15] for this view.

I want to stress that both views are based on a belief:

Physicalism: that everything concerning our world is the result of random interactions between material objects, governed by laws of the physical world.

Non-physicalism: that in the fullness of time everything concerning our world will be shown to be the result of an idea brought to fruition.

Both positions or belief systems are equivalent in that, at present, there is no evidence, in the scientific sense, for either. To some, one may be more acceptable than the other, but that's a matter of judgement, ie world view, not science.

The following quote may illustrate how a physicist sees the problem[16]:

"I do not understand how the scientific approach alone, as separated from a religious approach, can explain the origin of all things, It is true that physicists hope to look beyond the 'big bang' and possibly explain the origin of our universe as, for example, a type of fluctuation. But then, of what is it a fluctuation and how did this in turn begin to exist? In my view the question of the origin seems always left unanswered if we explore from a scientific view alone".

As mentioned above the controversy is anchored in how life[17] came about:

physicalists: Life is the result of complex processes occurring between material objects;

non-physicalists: Life comes from the creator being, the creator imbues its creations from life;

Not only do physicalists need to bring back the phenomenon of life to the random processes in nature but they also have a grave problem to explain: to tell a coherent story about how the physical and its interactions can be the cause of feeling pain, thoughts about physicalism or God and a myriad of other phenomena, concepts, emotions, wishes and the like but most of all, how life came into being or 'chanced'.

The non-physicalists have an easier but different problem to explain; to tell a coherent story about how the non-physical interacts with the physical, perhaps not for the initial act but certainly for all our actions. For example, how does the decision to write about evolution translate into physical processes that result in this article?

Reading 'Occult Science'[18] by Steiner makes it crystal clear which belief system should be prevalent within anthroposophy. Steiner describes a host of non-physical entities all involved in manifold ways with realising the coming into existence of a hierarchy of Freedom and shaping the appropriate environment. It is a detailed story, sometimes difficult to understand, but it places the human being in a very concrete relationship with its physical and cosmic surroundings, with the animals and plants and her/his fellow humans. Steiner also describes the nature of the human being from the same perspective, an idea incarnating in changing environments and going on a journey.

Steiner's take on evolution could be called 'top down', the conventional view as 'bottom up'[19].

What do I mean by this? Well, without going into too many details, according to Steiner the idea to create what we call a human being was what started the current evolutionary process, of which the fossil record is only the physical trail which documents this process; the more complex the fossil records, the more complex the developing idea of the human being. So 'top down' in the sense that the idea for the atom bomb, VW or scissors, was there before the items mentioned. The main stream view is that these items were built from the material available through random processes.

There is no conflict between Steiner's view on evolution and the findings of science[20], ie the sequence of fossil findings; fossils are the remains of the mineralised substance of animals, so they can only be found of animals with bones, teeth (vertebrates) or chitinous exoskeletons (invertebrates). If the first 'incarnation trials' were of a non-mineralised nature, then we shouldn't be surprised at not finding any fossils. As the earliest fossils date to the end of the Neoproterozoic (Ediacaran period, which is the end of the pre-Cambrian period, roughly 544 million years

9 http://en.wikipedia.org/wiki/Ernst_Haeckel.

10 The first human remains were found in Indonesia (Java Man dug up by E Dubois, initially named Pithercanthropus, later renamed Homo erectus).

11 For a brief overview of the current thinking see Inside Science, ed R Fifield, Penguin 1992, p213.

12 The controversy in education about teaching evolution versus creationism/intelligent design is not a scientific one but one reflecting our view of the relation between education and society.

13 These laws have been developed by studying our mineral world, inanimate objects and dead animals.

14 'Physicalism', the view that the real world contains nothing but matter and energy, and that objects only have physical properties, such as shape, mass, electrical charge, etc; (p 679 The Oxford companion to Philosophy OUP, 1995); thus all phenomena are to be explained ultimately by these concepts.

ago) era, we must conclude that any 'human incarnation' before that time was of a non-mineralisable nature[21].

In his book, Occult Science and elsewhere Steiner also gives an indication of what you or I have to do to go on a journey aiming to acquire the tools to do our own research in the non-physical world and corroborate (or not) Steiner's findings. These tools may be very different from those acquired when studying physics, biology or music, the effort is probably the same but of a very different nature, the results of a more lasting and rewarding nature. Steiner not only tells a story, and a gripping one in my view, but also gives you the tools to check it out.

Steiner's view of the co-evolution of the human individual and the earth is fascinating with far reaching implications for ourselves and the earth: it describes 'us', not 'them' as does 'detached' 'objective' science.

In conclusion, evolution is to be taken as a panorama of phenomena, the interpretation of which is determined by our personal world view; the discussion (in most cases) is about the possible interpretations, not about the phenomena themselves.

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15 another term could be: teleologicalism, striving towards some goal.

16 Towness, Ch H as quoted in Ferris, T: The whole shebang, p245 Weidenfeld & Nicholson 1997.

17 As we know it on our planet.

18 Steiner, R An Outline of Occult Science (1910, CW 13) Rudolf Steiner Press 1990.

19 'Bottom up' may seem more in tune with our democratic leanings, but not necessarily in tune with evolutionary reality.

20 Here I mean 'The findings of science' as the phenomena science studies, not the interpretation of these phenomena based on scientific theory and world view.

21 The fossils found in the Ediacaran period are a mystery to current science; conditions that prevailed on earth prior to this period may have been very different and not allowed for fossilisation or the substance of the organisms prior to that time wasn't suitable to be fossilised. I assume this applies to the organisms Steiner mentioned in Occult science as 'mineral-plant-animals, mineral-plants, plants-animals.