

The Phases and Future of the Noosphere: Segment 1

David Sloan Wilson: So Francis, we've been talking at a very high theoretical and scientific plane but we're part of a project called The Human Energy Project, which is very much based on Teilhard, and what we call a third story, that there's something about this which can be understood by many and really captivating to many. So there's a narrative end of this, which is very much centered on Teilhard per se. You described Teilhard as someone that you encountered early on and was kind of part of the air over there in Belgium. Then, you re-encountered and so on.

He wasn't really center stage, especially not in a narrative sense along with the concept of the Noosphere. So, let's come back or let's finish up actually with the Human Energy Project, and the idea that Teilhard and the Noosphere can become part of a third story that could be widely understood and valued by everyone. So, let's finish up that way.

Francis Heylighen: Well, the third story is also something that I have been working on without calling it that for ages. The research center where I work is called Center Leo Apostel. Leo Apostel was the famous Belgian philosopher who had kind of similar aims as Teilhard. I think he probably even was inspired to some degree though his background was different. He wanted what he called an integrated worldview.

The idea is science is fragmented into disciplines and sub-disciplines, that all the worldview from the origins don't give answers anymore to our big questions. What we need is a world a worldview that gives meaning to life that tells us what our position is here in the universe. Leo Apostel defined the concept of a worldview with six components. I'm not going to give them here, but in essence are about creating meaningful life.

Creating meaningful life, why do we need a third story? It's because the second story of science, it's not meaningful in the sense that it tells you that the universe just follows some laws that just happened to be there. We don't know why, and it's all like a clockwork. It's just running and you don't have anything to do with it. It doesn't go anywhere particular, or in the newer version of the scientific worldview, it's all the end of an unpredictable and chaotic. There is no sense of direction.

What the third story should do is give us the sense of direction. The sense of direction, we don't want to go back to the first story where the first story is the traditional religious story where God has some kind of purpose for the universe and the story is that we are just fulfilling God's design. We don't want to go to that either. We want to go to a worldview where there's both a sense of direction but there's no predetermination.

If you look at the more than scientific world, if for example this worldview of evolutionary theory. The worldview of complex adaptive systems, the worldview of self-organization, you see that processes have directions but they are not deterministic. We cannot predict what evolution will give but we can predict that some things will not happen, and some things will end badly, and some things may work also.

For me, the third story is this idea that there is a directionality to evolution and Teilhard formulated in a pretty simple way that in this law of complexity consciousness says that during evolution, complexity increases. Something which I think most people would intuitively agree with, although some evolutionary biologists are skeptical about that.

The second one is even more interesting. It is that consciousness will increase. Then of course, you need to define what is this consciousness. Just recently, I read a paper by a biologist called Michael Levin who formulates an idea that's actually very similar to my own idea in that respect. It is that if you go up in evolution to more and more sophisticated organisms, and then you look at the horizon in space and time, the things that they can either remember, or imagine, or perceived to be things that have happened or could be happening.

As you go from a bacterium to a multicellular organism, to a simple animal, to a human, that horizon expands. So we become more and more aware of things that are happening or maybe happening not in our immediate spatial-temporal neighborhood, we become more and more aware of things that may be far removed in time and space. That could be a simple interpretation of this law of growth of complexity.

The field of complexity that means that the things you can be conscious of, tends to increase with evolution and there's a good reason why that should be. That is that evolution is based on natural selection. Natural selection means fitness, means the ability to deal with all kind of problems and challenges. The wider your horizon is, the better you can see any possible challenges coming, the better you will be able to deal with the difficult ones and to protect yourself from them, and the better you also be ready to deal with a positive one to exploit the opportunities.

I think this view of the superorganism is telling us that we should expand our horizon of consciousness from the individual human to the level of humanity as a whole. That will create complexity because a superorganism is more complex than a simple organism, but that will also increase our consciousness. For example, now we are conscious of what's happening in Afghanistan. Hundred years ago, that never have happened.

Now, we should of course be careful not to just say that the wider the spatial range, the more conscious. We can be very much aware of things happening in Afghanistan that are not at all relevant to the future of humanity. There's of course, also the quality of the consciousness, which is something I have also been doing research upon, which is a little bit more difficult to explain in a few words.

I think we can unmistakably say that evolution goes together with this increase of complexity that we go from organism to superorganism and the increasing consciousness in the sense that we become aware of more and more things that are not immediately in our personal neighborhood.

DSW: That's great, Francis. That was very eloquent. Let me add my own perspective on that from the standpoint of evolution. Going all the way back, basically the pre-Darwinian notions of evolution such as Herbert Spencer who you've already mentioned were of course progressive. This is part of the enlightenment movement. We get people like August Comte with his religion of man and Herbert Spencer. These were all more or less secular worldviews that were very value-laden. Were functioning as worldviews, were functioning in the same capacity as religion.

Then came Darwin and Wallace, and this amazingly simple concept, of variation, selection, and replication as the mechanism of evolution. And with the rediscovery of Mendel's work, that led to a period of evolutionary biology and theory which we can look back upon as being amazingly constricted, that all the purpose was drained away from evolutionary theory. Now, it was just the organisms vary and only the immediate environment does the selecting. So, the whole study of evolution went away from Teilhard's vision.

Teilhard's vision was one in which he saw it as a metamorphosis of the Christian religion. Evolution is a metamorphosis of the Christian religion. Then, what we can say now which I think is so exciting and amazing that by going back to basics as I put it, and at seeing Darwinism as any process that combines the ingredients of variation selection and replication, which I think is how you began this conversation.

Then that brings back in cultural evolution and has ample room for a conscious component of cultural evolution. All of a sudden, we're back to where evolution can provide a narrative which is similar in spirit to Spencer and very similar to Teilhard. It can be a science-based worldview that can inform us, along with complexity. So evolution and complexity, the new foundation for our third story.

Although, I'm sure that portions of our conversation were going to be over the heads of a lot of the people listening to this, but the third story is actually something that can be deeply intuitive,

commonsensical, and anyone can understand. So, I'm so happy to be a part of that to the best of my ability.

FH: I wanted to maybe add an argument for this progressive evolution. It's an argument that I developed in a paper more than 20 years ago which was quite well-cited by way of anecdotes. My collaborator Shima, she discovered that paper when she was making her PhD. That's what brought her to come and work with me. So the paper is called *The Growth of Complexity During Evolution* and that was controversial idea at the time because you had this approach among evolutionists, among which Stephen Jay Gould, that evolution is just adaptation to local circumstances.

There's an Ice Age. In order to survive, you need to have a thick fur. So, you evolve into something like a mammoth. Then the Ice Age goes and it becomes warmer, so the mammoth needs to evolve into something with thin skin. Then, the climate goes cold again, so the thick skin goes again. It's just random adaptation to whatever vagaries that are in the environment.

So the argument I made is that, yes, it's good to show an adapted to your environment but since the environment anyway is variable, the more adaptability you have at the moment, the better you are. So, there is a tendency to evolve into systems that can adapt to a wide range of things. If they can adapt only to a particular range of things, they are likely to be eliminated by the next change in the environment.

So this increase in the range of things we can deal with, that's something that can be expressed even in the form of a cybernetic law. It's called the Law of Requisite Variety. The cyberneticist actually says, "If you have to deal with various perturbations, the more variety of actions that you can do, the better you will be able to deal with all these problems."

So there is, you might say a selective pressure for living systems to increase the variety of things they can do. In increasing the things they can do, that means on the one hand getting the physiological anatomical features to do these things which means increasing complexity, but it also means a kind of a cognitive increase and increase in the number of things that they can sense and the amount of knowledge they have to know how do I deal with these circumstances.

So, the selective pressure is to increase the range of challenges you can deal with and that is a progressive evolution. There is no doubt about that. The example I gave, supposed that you have two systems. One that can deal with situation A, B, C, and the other one can deal with situations A, B, C, D. Well, as long as the situation is A, B, or C, they're both equally good. The moment that the situation changes into D, the first one gets killed off and the second one remains.

So therefore, there is a selective pressure to be able to deal with a wider range of things and that implies all this progressive evolution towards more intelligence, more consciousness, more flexibility, more complexity, et cetera. So, the third story is really that evolution is progressive. We learn to deal with a wider range of situations. We expand our consciousness to a wider range of challenges and opportunities.