

## Statement of Interest

**Some ideas about Hegel and Günther**  
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Are antinomies a foundation for an emerging development in nature and thinking? If you read Hegel you come to the conclusion, to say yes, because he thinks of contradictions to be a manifestation for thinking of thinking. He cuts with classical tradition of logic by putting the subject into the reflection of thinking and consciousness. Aristotelian logicians break the world into two pieces: subject and object and forget about their own thinking, the process of reflection. They are able to investigate the world around them and judge with two possible variables of truth: true and false. They handle like this: Here is the subject and there is the object, thinking of it as an item excluded from their inner world. Two-valued logic processes with extensional ideas and handles being as transcendent from thinking. It is founded on identity, forbidden contradictions and the tertium non datur. Being is before thinking, all objects have the same attributes for the subjects, objects are observable. From this we can conclude that subjects have one common view for all objects, there are no different observers.

Kant is of the opinion that thinking and being cannot be totally coincide, but Hegel first contributes that thinking is prior to being, so that subject and object fit together in one process of thinking. The identity of thinking and being is not summarized under the category of being but is a topic of meaning and reflection. Hegel's idea does not come from the identity of being (being = being), but is founded on the paradoxical thesis being = nothing, so that there are different ways of observing: thinking about oneself, thinking about the other and thinking about thinking. Because thinking and being cannot be put together there is some rest of reflection (see also Kant), working as a kind of motor for the dialectical process of thinking (Thesis – Antithesis – Synthesis).

Hegel's theory is bear of an operational process, he sees dialectic not being able to formalize like two-valued logic, because of the simple fact, that formalization was not yet so far. But he first introduces contradictions into a scientific discourse. Self-referential systems (biological, logical, social, economical, mathematical, chemical, physical, ...) are "infected" with contradictions. But this infection is the base for a self-organizing process. Why? For example see the big bang as a beginning for space and time, what was the first initial event? A black hole with an infinite matter and gravity? Or was it just a quantum fluctuation? In the discussion described here it is not important, what kind of underlying "extension" you suppose (matter, logical structures or strings, for example). We have to describe the dynamic process, there *is* something and at the same time and place there *is not* something. That's the contradiction but it is the start of being out of nothing, because being really *is* nothing at one time (see again Hegel). Even mathematics and logical principles are infected by contradictions (see Russell and Gödel). In logical principles like forbidden contradictions you will find an antinomy if you put it into a self-referential process and anticipate forbidden contradictions as a forbidden contradiction. Most of the scientists eradicated antinomies because of their destroying effect and draw the conclusion that because of the problem of formalization of antinomies a formalistic approach of intelligence in total is impossible, but we'll see a different way.

There must be at least two suppositions of starting the process: being *and* nothing, because being just *is* nothing. Every entity must include its own opposite and then start with at least two points of view. There is no lonely subject with many objects, there are many subjects with many objects, and the idea of Gotthard Günther is to combine them. The two-valued logic is preserved in the context of one subject or physical event (intra-contextual), but it contains other subjects in its horizon (reflection in others) that are inconsistently combined together with this subject. So, two-valued logic is not able to handle this, because of infinite regress, forbidden contradictions and the theorem of identity (in Günther's ideas this theorem is hurt, because an object can change its identity by changing its contextual view). But there is another process that connects between different logical entities depending on two-valued logic: Polycontextual Logic, the idea of Günther. Two-valued logic is mono-contextual with one logical being and two-variables and two logical decisions: yes and no. The one is the operator and the other the operated thing, active and passive. They can be exchanged but it has no effect on the structure of the local logical being. Between  $R(x,y)$  and  $R(y,x)$  there is no logical change. But if the "Relator" and the "Relatum" change their position they must do it in a different logical order, this is Günther's proemial (greek: prooimion, "preliminary") relationship. This is combined with kenogrammar (greek: kenos, empty) and builds a structure where relations between different relata are important and take effect. Günther: "... the basic logical elements of transclassical logic... are not the values but the kenograms, i.e. empty places which merely indicate structure and which may or may not be occupied by values." Morphogrammatical structures consist of many kenograms, and the same kenograms may appear more than once.

From that we get an idea of the consequences of Günther's work. The observer melts with its surrounding environment, the dichotomy of subject and object is away. There is one common logical web with local individuals (intra-contextual, classical) communicating with other loci (inter-contextual, polycontextual, transclassical). It is curious, that polycontextual logic itself must be polycontextually built, because if not, it would be inconsistent. But this is not a contradiction because you build up a network, not iteratively, but tabular. You do not start with single symbols like in semiotic but with kenograms, forms, morphemes and space will change itself the network. It is like in Einstein's relativity: time and space are built up together, matter is the four-dimensional grid of space and time, not their separation. So logical space with many ontological loci build a logical structure, but only together, not isolated, they found a logical truth. It is like a logical carpet, when you isolate a thread you will destroy the initial structure and lose truth.

So what can we learn for artificial intelligence? We must change the paradigm of separation of code and data, because that is our separation of subject and object. There is one conglomerate of pointers building up the logical structure of entities "living" together in some kind of graph, some "objects" are operators, some are "operanda". But they can change their logical places by keeping their ontological positions, that means they will stay in a grid and change their attributes of relation. There is no beginning and no end, there can be a circle in a graph (it is not a tree!), so they "weave" their own structure, if there is an antinomy, it doesn't matter, because an antinomy is a birthplace for some new kind of entity, like a new universe...

We see that we got from antinomies as a starting point to massive logical, natural, mathematical structure, yes, we come to a structure in general!

Moreover from this point of view in a polycontextural world we must accept a being of machinal behavior different from our current idea of computing and artificial intelligence. Machines must have their own world, different from ours. It is not efficient to copy our human intelligence and transfer it into a machinal context. We must accept different universes and intelligences forming a completely different behavior opposite to our expecting view of intelligence. Why use the model of human intelligence for some kind of different intelligence? A structure (universe, matter, information, computer, ...) must form its own environment, yes, it forms it, if we like it or not, and it must have the chance to form it!

I don't want to stress your fancy, it's just a summary of some ideas about Hegel and Gotthard Günther.