

Re: Universal grammar

Source: <http://sci.tech-archive.net/Archive/sci.lang/2006-10/msg01542.html>

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 - *Date:* 23 Oct 2006 01:48:55 -0700
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Hans Aberg wrote:

There is no problem dealing with that, as in metamathematics, one introduces the notion of a theory with equality.

Well then, let us go a step further. Mathematics relies on the basic formula $a = a$, while nature, life and art follow Goethe's formula "all is equal, all unequal ...". Mathematical logic is entangled with every part of the world, while covering only half of the world. You must always secure it against the wilderness of the equal unequal. For example one is not allowed to divide a number by zero. Why? When I asked my teacher, he knocked me on the head with a large iron key. Not a very mathematical argument, I thought. Years later I found a logical answer: when I divide a number by zero, I get an infinite number as result. One times infinite equals two times infinite, three times infinite, and so on, hence I am in the realm of the equal unequal, forbidden for mathematicians. The division by zero, one may say, is a "wormhole" between mathematics ruled by the basic formula $a = a$, and the real world, where $a = a \neq a$.

Also language follows Goethe's formula. Language is full of vital ambiguities. They make words resound, store plenty information on life and nature, and allow us to speak on more than one level. You find them everywhere, even where you would expect them least. You may have read parts of Homer's Odyssey in school. What did you make of beautiful Helen, allegedly the cause of the Trojan war? You may consider her a historical figure, or, more probably, a fictitious woman. But no, she is no woman. In my opinion, Helen symbolizes the then rare and precious metal tin, which came from the Ore Mountain and from Central Asia and was bound to pass Ilium, where the Trojans laid hands on it. Her glittering long robes she made herself are shiploads of the glittering tin ore cassiterite. Her thread is tin wire, cut from tin foil. Her husband xanthos Menelaos symbolizes copper, the color xanthos covering all shades of copper ores, yellow, brown,

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red. Their daughter, lovely Hermione who resembles golden Aphrodite, symbolizes the alloy bronze, of a golden shine when freshly cast ...

Language and poetry are full of ambiguities, on every level. Drive them out and you kill them both.

All you can possibly achieve, in my opinion, is to reduce ambiguity in mathematical logic. In order to get a more universal grammar for your software. Some clever compromises.

The situation may change with neuronal networks – genuine neuronal networks, not just simulated ones on Von Neumann computers. I could imagine that such a machine of the near (?) future may allow to find a path from A to B – say, in the case of a mathematical problem –, whereupon a classical computer may broaden the pathway, miraculously found by the network, into sort of a highway.

Sorry if I talk nonsense. I am a computer moron. But the discussions about programming remind me of discussions of turntables in the late 1970s: how can one possibly improve them? And all of a sudden there were CD players that made all those endless discussions superfluous.

My advice: prepare yourself for a new era, be open for new possibilities, adopt your work and reasoning to the future task of accompanying neuronal network computing, and don't hope to ever free language from ambiguities that make it so rich and lively! Ambiguities are emanations of the formula $a \text{ equals } a \text{ unequals } a$, and thus testify to the logic of nature and life.

Other forms of computing appear on the horizon as well: quantum computing, DNA computing. Also they may once be embedded in classical computing, and each one will excel at a different task. Consider how the brain works. Vision occupies a third or even half of the brain and involves thirty areas, each one performing a special task. Also grammar of the future may be a combination of grammars: classical grammar, generative grammar, Rupert Ruhstaller's grammar of functors and arguments, visualized in budding circles (the only grammar I know that finds meaning in seemingly free word order), and so on.

Grammar of the future will achieve more than artificial language of today, however, you can never really tame language. Consider what language is. Here you are with my definition from 1974/75: Language is the means of getting help, support and understanding from those we depend upon in one way or another ——— and every means of getting help, support and understanding may be called language, on whatever level of life it occurs. What is special about human life? the use of artificial things we made ourselves. What is

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special about human language? the use of words, which name things and make us see a world full of things ... The more things we use, the more specialized our lives become, and the better we must be able to explain our specific situation before we can hope to get our needs satisfied and our wishes fulfilled, and so it comes that most of our language describes the world, nevertheless, language serves needs and wishes.

You can never really tame language. Already Rupert Ruhstaller told me that. Speakers will always find a way to get around rules. You can perhaps deal with some tame forms of language, but you can never tame language per se. I say this to the computer people, and to the grammar fans in sci.lang as well.

Regards Franz Gnaedinger

"All is equal, all unequal": www.seshat.ch/home/equal.htm

Rupert Ruhstaller's grammar: www.seshat.ch/home/grammar.htm

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