

From: "Noam Chomsky" <[REDACTED]>
To: "jeffrey E." <jeevacation@gmail.com>
Subject: RE: Re:
Date: Mon, 22 Jun 2015 16:56:41 +0000

Interesting perspective. I don't really see how it applies to Yang's work, but best I think would be to contact him directly. I presume he'd be most interested in discussing these matters, and I think you'd find him interesting to talk to. A smart and competent guy.

Noam

From: jeffrey E. [mailto:jeevacation@gmail.com]
Sent: Monday, June 22, 2015 8:21 AM
To: Noam Chomsky
Subject: Re: Re:

Ive read ten of yang's recent papers. I firmly believe that his computer science perceptions , limits his breadth. many in the past years on probabilistic learning. probabilities in language. . etc. not rigorous to say the least. .. complex formulas that ignore that statistics are not probabilities. .. over and over. . to have probability one needs . symmetry, entropy, repetition. . the space of probabilities must be defined. the lens into that space needs to be constrained. the law of large numbers applies as a miracle formula to test the accuracy of prediction. . IT does not exist in language. . one can toy with the statistic generated all they like , but arriving at the structure of the space, using that method is hopeless. it is the mathematics of computation. thinking is not computation though it shares many similarities. thinking I believe requires exploring fully the space of what is NOT the answer. When the military was trying to better their targeting ability , years of trying to hit the bulls eye with missiles became easier when they turned the equation on its head , and focused instead of not missing. 1 minus the probability of failure. equals success. . biology seems to behave as exploring the space and eliminating what does not work in order to find the solution. computing goes directly for the target. all possible combinations minus the nonsense , equals coherent sentences.

On Sun, Jun 21, 2015 at 11:13 PM, Noam Chomsky <[REDACTED]<mailto:[REDACTED]>> wrote:
I follow up to the point where you write "the organizing principle of the shape is language..." No doubt it can (partially) be described in language, but that's not what you mean.

Zipf's law is a rank-frequency distribution. And also meaningless, as Mandelbrot showed 60 years ago. I hope Yang is clear about this. He surely knows.

Noam

From: jeffrey E. [mailto:jeevacation@gmail.com<mailto:jeevacation@gmail.com>]
Sent: Sunday, June 21, 2015 2:48 PM
To: Noam Chomsky
Subject: Re: Re:

it is my failing not yours. the old math requires numbers . too limiting. (we can put a metric overlay on later in the chain) imagine a shape in real space. it is readily apparent if a line either fits on the shape or not . how do you know. ? you compare the line with the shape. your visual system allows the mental shape to either map onto or not onto the shape in a coherent manner. the shape is not an input device ,it is an object . the organizing principle of the shape is language, the shape is a collection of grammars. lines on the shape are either coherent or not. coherent ones are legitimate sentences .
yang is flexible in his use of the term probability. . for example he in a number of papers refers to zipf as a

probabilitiy distribution. i have checked a number of his papers after your last remark, I think it is a mistake. he means that after empirical measurement . for ex word frequency, . if ten times out of 100 the corpus has the word x. then he describes the probablility of finding the word as 10 percent . this is not correct. it is only the probability of finding the word in the frequency list . but he is very accomplished at mathematical models.

On Sun, Jun 21, 2015 at 1:03 PM, Noam Chomsky <[REDACTED]><mailto:[REDACTED]>> wrote:
Interesting image, but I don't see what it tells us about language.

The problem looks to me like this, roughly.

Take, say, the human visual system. There's a genetic component that determines that humans will have a mammalian and not an insect visual system, and much else. Same with other subsystems of the organism – “organs,” “modules.” Language in particular. The technical name for this component, whatever it turns out to be, is UG. UG therefore determines that certain systems are possible I-languages for humans, others are not. I presume that is what the “biological organizing principle” for language is. It's plainly not an input system, though it determines possible input systems for human languages. I don't see how we improve understanding by looking at it from this perspective.

A minor technical problem, not serious, has to do with distinguishing digital infinity from continuity, like continuous lines on the surface of a hemisphere.

I think you'll find Yang interesting.

Noam

From: jeffrey E. [mailto:jeevacation@gmail.com<mailto:jeevacation@gmail.com>]
Sent: Saturday, June 20, 2015 10:52 PM
To: Noam Chomsky
Subject: Re: Re:

1.I will wait on valeria. we can craft a fun few days

2, try this on but only if you get a moment , i know you are busy

it appear to me that ""language" can be defined as the biological organizing principle that creates a shape space. "coherent sentences " are defined as those that fit on the shape. The projections on the sensory motors, allows communication. . There are an infinite digital number of sentences.that do fit on the shape , but orders of magnitude more, that do not fit.- to attempt a naive representation, imagine a hemisphere, (symmetric), any continuous line drawn on its surface , is a sentence. there are infinite numbers of lines that can be drawn. however , trying to connect two points , directly without traversing the hemishpere is also infinitely possible but most solutions need to leave the surface. The principle that organizes the shape is NOT an input device. one can map inputs onto the shape but it is not THE shape , ex, a hemisphere bowl in 3 space, analogy, one can put marbles in the bowl and they will map a path to the bottom. but the shape of the bowl . determines how fast they move, and in which direction, . the shape of the bowl is the language. there is a shape for vision as well. . it exists without input, certain paths are more probable etc.

3. I will contact Yang

On Sat, Jun 20, 2015 at 10:41 PM, Noam Chomsky <[REDACTED]><mailto:[REDACTED]>> wrote:
Valeria's not here right now, so will have to check with her about late September. Really intriguing possibilities, and a delightful offer.

On Yang, I read his work quite differently. He does make use of word frequencies and probability distributions, but as far as I am aware in pretty straightforward and innocuous ways. And he's quite sophisticated about these

matters. Smart and interesting guy. You might want to contact him directly.

I don't recall his using Zipf's "laws," but it wouldn't matter much. Mandelbrot showed back in the '50s that they were a statistical artifact, near meaningless. I was, incidentally, surprised to see how he dealt with this result in his autobiography. I think he called it his "Keplerian moment," or something like that.

Noam

From: jeffrey E. [mailto:jeevacation@gmail.com<mailto:jeevacation@gmail.com>]
Sent: Saturday, June 20, 2015 12:10 PM
To: Noam Chomsky
Subject: Re: Re:

I think you might try to plan on late september , taking my apt and spending a few days with valeria in the city, As it is the opening of the UN general assembly , as well as the Clinton global initiative New york is rife with people with at least influence, if not new ideas. . I , we. can organize many fun interactions. my house becomes a respite for the select few, to take off their ties , and talk openly. You would be welcome to join as many create or participate as you prefer. yang's work deals with language as signals . his reliance on Zipf like distributions is a good example of naive probabilities. . empirically zipf appears. but cannot be derived from any of his or anyone's else's to date. so somewhat misleading to suggest the " probability of word , x appearing, " it is the mistake of frequency vs probability, and careless common usage.

On Sat, Jun 20, 2015 at 11:44 AM, Noam Chomsky <[REDACTED]<mailto:[REDACTED]>> wrote:
Sounds like a most interesting person. And someone it would be very interesting to talk to. I presume he spends time in NY. Hope we can work it out.

Would be interested in learning more about your critique of the use of probability in language work, mostly by computational cognitive scientists, as far as I know. I've written critiques of it too, but on different grounds: failure to account for what they are trying to show, or even to understand the issue. There are, I think, some notable exceptions, like the recent work of Charles Yang, one of Bob Berwick's students.

From: jeffrey E. [mailto:jeevacation@gmail.com<mailto:jeevacation@gmail.com>]
Sent: Saturday, June 20, 2015 8:22 AM
To: Noam Chomsky
Subject: Re:

He is the head of the human rights court in strasbourg. / former prime minister of norway. . . He would be happy to have a dinner with us. . subj. drones. solitary confinement , death penalty (europe does not have one , so if killing terrorists is to be under an act of war, argument , then they, as enemies ,have war rights.). tribalism, mafia, syria, ukraine, saudi, egypt. libya, . We have a great friendship. - I give him his financial ABC's class. he gives me my pragmatic politics lessons. fyi great similarity now as the old political guard seem to reflect the patterns of the old long term investors, (skills of . planning. executing . etc) now confronted by media . and pressured to make quick decisions. ie behaving like inexperienced short term traders. fyi I have read a great number of language papers. many if not most, misuse the concept of probability . making naive, erroneous uses of the word , hence forming nonsensical conclusions. (like the silly , life on other planets " calculation". probability needs repetition and symmetry, historical events do not have either !)

On Sat, Jun 20, 2015 at 1:08 AM, Noam Chomsky <[REDACTED]<mailto:[REDACTED]>> wrote:
Glad it worked. Hope that the speech was of some interest.

From: jeffrey E. [mailto:jeevacation@gmail.com<mailto:jeevacation@gmail.com>]
Sent: Friday, June 19, 2015 6:38 PM
To: Noam Chomsky

Subject:

you would have been proud my friend the sec gen of the council of europe thjorborn jagland had to give as speech on terrosism to the security counsel. Last night I presented your arguments, re hypocrisy, he was shocked but loved it.

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