CHOMSKY'S ANOMALY: INNER SPEECH

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ABSTRACT. Chomsky has restricted his linguistics to intra-personal language, which he refers to as inner speech. He does not include interpersonal communication or speech acts. But the literature on inner speech shows it to be quite free-form and irregular in both syntax and semantics. It cannot be formalized as Chomsky tries to do. This problem weakens Chomsky's claim to have found a universal grammar.

Chomsky has restricted his linguistics to language as it is used for thinking, which he recognizes as inner speech. He is not talking about language as communication or as speech acts. As he said in *On Nature and Language* (2002)

> Language is not properly regarded as a system of communication. It is a system for expressing thought, something quite different . . . language use is largely to oneself: "inner speech" for adults, monologue for children. (pp. 76-77)

More recently, in a similar vein, he said

> Now let us take language. What is its characteristic use? Well, probably 99.9% of its use is internal to the mind. You can't go a minute without talking to yourself. It takes an incredible act of will not to talk to yourself. (2012, p. 11)

In addition to concentrating on inner speech, he also restricts his science to linguistic forms or rules. He calls these rules competence as opposed to performance. This is similar to Saussure's distinction between langue (language) and parole (speech). These then are Chomsky's starting points.

I will show that these commitments create serious problems for Chomsky's linguistics. Inner speech is quite irregular, much more so than interpersonal or outer speech. It is also difficult to say there is a "competence" or "langue" dimension for inner speech. The competence aspect is primarily rules, but inner speech, being private, has no audience to carry or enforce the rules. In fact its major rule is efficiency, whatever that might imply for any given individual.

Presumably Chomsky did not intend to create these problems, nor did he foresee them. In 2002 when Chomsky made the foregoing declaration of intent, there had not been a great deal of research on inner speech, and he may have been unfamiliar with the existing literature (see Wiley, 2006 and forthcoming for an overview of this topic, although I have changed my interpretation of Chomsky since my 2006 paper). Still Chomsky had been saying his linguistics concerns language, not as communication but as a tool for thought, for a long time (1966, p. 13; 1975, p. 57).

In addition, his comment on the functions of inner speech ignores its syntactical and semantic oddities.

> Actually you can use language even if you are the only person in the universe with language, and in fact it would even have an adaptive advantage. If one person suddenly got the language faculty, that person would have great advantages; the person could think, could articulate to itself its thoughts, could plan, could sharpen, and develop thinking as we do in inner speech, which has a big effect on our lives. Inner speech is most of speech. Almost all the use of language is to oneself. (Chomsky, 2002, p. 148)

In another place Berwick and Chomsky add sleep talk to what constitutes language.

> Statistically speaking, for whatever that is worth, the overwhelming use of language is internal – for thought. It takes an enormous act of will to keep from talking to oneself in every waking moment – *and asleep as well*, often a considerable annoyance. (Berwick & Chomsky, 2011, p. 26, italics added)

I will comment on this addition of sleep talk later.

To return to children's speech, Chomsky may also have been unfamiliar with the research on children's monologues, now referred to as "private speech" (Winsler, 2009). This is children's "thinking out loud" stage, in early childhood. Children's private speech has many of the same irregularities as adult inner speech. And over time, from ages two to seven or so, this speech does not become less fragmented and ungrammatical. It becomes more so. (Winsler, 2009, p. 8). Usually we think of children's speech as improving over time, suggesting a tendential movement toward a set of rules. But children's private speech becomes increasingly deviant from the rules. Obviously the rules are just one force or set of controls and a rather weak one at that.

Regardless of why Chomsky made his statement of intent, it seems to be a poor choice for his linguistics. His theoretical scheme might work for interpersonal speech but it is unrealistically idealized for inner speech. To put it another way inner speech is an anomaly or puzzle, in Thomas Kuhn's sense, for Chomsky's linguistic paradigm. (Kuhn, 2012, p. 53)

Politics vs. Linguistic Theory. There are two Chomskys: the one who writes political books and the one who writes on linguistic theory. He thinks the two stream of writing are connected, that his linguistics implies his radical politics. But this seems like a considerable stretch, and few people agree with him (though see Lakoff, 1999, pp, 478-9 for an interesting interpretation).

In this paper I will ignore the ideological Chomsky, except to say that I agree with most of his radical politics and I think he has done the United States a big service by expressing his political views, especially the early ones on the Viet Nam War. I am a huge fan of the radical Chomsky. But that will not keep me from calling them as I see them regarding his linguistics.

Some Examples of Inner Speech

To make my argument I will have to present a fairly comprehensive description of inner speech. Let me begin by presenting three examples of inner speech. This batch of texts is somewhat long, but the best way to discuss inner speech is to have some examples in front of you.

This is a waitress reporting on her thoughts going to work. Her inner speech is presented linguistically along with brief sketches of her imagery.

"Only eight minutes, takes five to change. I've got to book (hurry)." Imagery: A disgustingly filthy locker room. Visions of me running from table to kitchen table. Sounds. Forks and knives scraping plates, customers yelling over each other. " *I have to make money. At least it's not as bad as last summer*." Memory imagery: A tiny dumpy diner. Visions of me sweating. Sensations of being hot. Visions of thirty marines eating and drinking. Sounds: country music on a blaring juke box . "*I'll be right there, just a minute please."* Sensations of burning my arm in a pizza oven. Visions of dropping glasses. Sounds: Glass breaking, manager yelling, marines cheering. "*Oh God, get me out of here*." Sensation: Cringe, humiliation. "*I hate waitressing. Can't wait to graduate and get a decent job*." Visions of a paneled, brightly carpeted office with scenic pictures and healthy plants. Visions of me fifteen pounds thinner in a new skirt suit from Lord and Taylor.

> A great-looking coworker is pouring us coffee. Sounds of
> a clock chiming five o'clock. "*Sure I'd love to go out*
> *Friday night*" (Caughey, 1984, p. 135. Italics mine.)

A second example is of a girl, a little under two years old, overheard when she was in her bedroom. The researcher sees this as an example of imaginative play. I am including it as an example of Chomsky's childhood monologue. The girl is just under two years old.

> Go Grandma and buy a pretty doll Grandma for me
> under the bed for me to play the piano. . . get up
> cling, cling-ling-ling. Grandma comes up the steps.
> Oh, oh, ah, ah, ah, lying on the floor tied up no
> cap on Theodosia (the doll) lie on the bed, bring
> yellow sheep to Theodosia, run tap, tap, tap, for Lena.
> Strawberries, Grandma, wolf lie on bed. Go to sleep
> darling Theodosia you are my dearest; everybody is fast
> asleep . . . . A cat came in here, Momma caught it, it had feet
> and black boots on – short cap, band on it. Poppa ran, the
> sky – Grandma gone—Grandpa resting. (Singer, 1966, p. 134).

A third example is that of John Johnson (1994), who is illustrating the condensed quality of inner speech. His example is a "to do" list with only three items.

> "car, dinner, kids."

He explains the meaning of this string of words as follows:

> "Make sure to fill up the car's gas tank, stop by the
> store and pick up a gallon of 2% milk and a loaf
> of whole wheat bread, and be certain to pick up
> John and Kate from daycare before coming home. (p. 177).

These examples show how inner speech violates the official linguistic rules. Sentences are fragmentary, semantics is irregular and non-linguistic images abound. The waitress shows how inner speech can be full of imagery. Singer's childhood example shows how both vocabulary and grammar can be irregular and fluid. And Johnson shows how inner speech can be squeezed into a small number of words. Using these examples as a background resource, I will now list the characteristic features of inner speech, drawing on the analysis of Lev Vygotsky (1987). First the syntax and then the semantics.

4

Syntactically this form of speech is often simplified and abbreviated. Since the subject of the sentence is usually the speaker, and the speaker already knows that he or she is the subject, the subject is usually omitted. This practice is like the use of condensed language in a telegram (or an e-mail or an electronic "text.")   In the telegram, omitting the subject and sometimes other parts of speech saves money. With inner speech it saves time and effort. It also focuses the communication on the essentials.

For Vygotsky the syntax of inner speech is, in his words, "predicated" (Vygotsky, 1987, p. 267). By this he does not mean the predicate of a sentence in the usual sense. He means the thought which answers a question and supplies only the needed information. If the question concerns a time of departure, the predicate might be "eight o'clock." That would be the whole sentence. If one said (to oneself) "the best time to leave would be eight o'clock" the first seven words would be unnecessary.

If the question were "Why are we selling the house?" you might merely say "money," rather than "we are selling it to get the money (or because we need money)." A predicated utterance then might omit the subject and possibly also the verb, not to mention possible modifiers. Inner speech's syntax is stingy, and it does not follow the formal syntax of Chomsky's model. Inner speech, given its abbreviated form, almost looks like pidgin or creole, but it is always possible to unfold and expand the sentence into grammatically formal language. Still people do not actually do this with inner speech, except when rehearsing a formal statement (e.g. asking the boss for a raise or one's girlfriend for her hand in marriage).

In the examples, condensation and abbreviation are found throughout. The waitress begins by saying "Only eight minutes. Takes five to change." Without abbreviation this sentence would read, "I have only eight minutes and it takes five to change clothing." But the strength of the waitress's example is the way she shows the interpenetration of ordinary language and imagery. Her semantics is more imagistic than verbal.

Singer's childhood monologue shows a little girl imagining getting a new doll from her grandma. She is picturing how the toy will bring new life to her bedroom. Her syntax and semantics bend to her imaginative creativity.

John Johnson's example is a case of a three word utterance, tightly condensed and requiring forty two words to unfold.

Turning to semantics, inner speech has unique ways of handling meaning, again well described by Vygotsky. He has a complex explanation of inner speech's semantics, usefully summarized by John Johnson (Johnson, 1994). He sees two broad features in Vygotsky's explanation: semantic embeddedness and egocentricity.

Semantic embeddedness means a word can have a bigger variety of meanings than it has in ordinary, interpersonal speech. It is embedded in a wide batch of meanings. Ordinarily "dinner" simply means the evening meal. But in inner speech it can have overtones and specifications, such as a particular item for an entrée, a special guest, a celebration, this or that restaurant, who's cooking?, early or late?, who's on a diet? And so on. Embeddedness means the vocabulary uses the principle of "a little can go a long way." With a small, but highly flexible and stretchable batch of words, we can say (to ourselves) almost anything we want. One's inner speech vocabulary is much smaller than one's outer speech vocabulary. This means the semantics of inner speech is different from the semantics of outer or interpersonal speech.

George Herbert Mead, the pragmatist philosopher, referred to inner speech's small vocabulary as follows:

> The mechanism that we use for this process is words, vocal gestures. And we need, of course, only a very few of these as compared to those we need when talking to others. A single symbol is enough to call out necessary responses. But it is just as real a conversation in terms of significant symbols of language as if the whole process were expressed. We sometimes do our thinking out loud, in fully organized sentences; and one's thought can always presumably be developed into a complete grammatical unit. That is what constitutes thinking (Mead, 1936, p 381).

Chomsky does not seem to be aware that the vocabulary of inner speech is significantly smaller than our interpersonal vocabulary. Also this vocabulary seems to be mostly nouns and verbs with few other parts of speech. If Chomsky had inner speech in mind in his review of Skinner's book *On Language* (Chomsky, 1959) his claim that speakers can form an indefinite or infinite number of sentences from their vocabulary might have to be toned down a bit, given the limited size of inner speech's vocabulary.

Saussure's associative axis is helpful here (1959, pp. 122-127). He had two axes for a sentence. The one he called syntagmatic was merely the syntactical unfolding of a sentence, going from subject to predicate. But what he called the associative axis was the set of meanings that might be suggested by the actual words in a sentence, even though these words were not chosen and remained in the background. This axis was a collection of related meanings, i.e. both similar and contrastive, that hovered over a sentence's core meanings. He thought only in terms of similar meanings, those that could be substituted for the meanings actually used. But I think contrasting or opposite terms also belong on this axis. "I'm tired and want to go to bed" could have an associative axis in which words like "weary, exhausted, beat and bushed" might surround the word "tired." Also such contrasting words as "energetic, alive and fresh"

might be present as opposites. This embedding gives the inner speech semantics a fluttery, epistemologically labile quality.

The egocentricity of inner speech's vocabulary, to turn to Johnson's second point, refers to the way words can be individualized and hooked to the speaker. The meaning has the speaker's self or "ego" at the "center" and is thus "egocentric." Here is an example:

> I once knew a guy named "Tom," and he had the most engaging, trust-inspiring smile. All he had to do was flash that smile, and I would believe anything he said. The smile was so powerful I had to be betrayed about a half dozen times before I got the point. Then I realized the smile, sucker as I was for it, was a big lie and his major weapon for getting what he wanted. Now, in my mental wanderings I sometimes hear myself saying "he's another Tom," or simply the condensed and highly egocentric "Tom!" (Example used previously in Wiley, 2006, p. 339).

A peculiarity of inner speech semantics that Vygotsky did not mention is that imagery can function linguistically and syntactically in inner speech. It is well know that some people sometimes think, not in words but in such media as sounds, numbers, visuals, colors, tastes and odors, tactile feelings, kinesthetics and emotions. The waitress's text is full of imagistic thinking,

These images can be placed into syntactical slots, such as subjects and objects, and function as though they were words (Bickerton, 1995, p. 106). For example I can say "I'd like a burger" by adding the visual image of a hamburger to the words "I'd like a."   Or I could drop the subject and the article, just saying the word "like" and then adding the image of the burger. I could even drop "like" and just produce the feeling of wanting a burger. This would create the single-element sentence of "wannaburger" which combines the hunger impulse with a sizzling burger.

A moment's thought shows that there are an indefinite number of ways we can form inner speech utterances that combine imagery and words -- or even work solely with imagery. When we do this in our minds the discourse is often so complex, fast, "non-cognitive" (so to speak) and semi- unconscious that it is difficult to catch. Still, this is how the human animal seems to work and it means that inner speech is, in some ways, more complicated than outer speech

There is also a phonetic peculiarity to inner speech. Obviously imagery is non-verbal and therefore has no phonetic presence. This gives inner speech a phonetic contrast to outer speech. In addition Vygotsky (1987) points out that we often "think" the words rather than pronouncing them in our minds. "We never have the need to pronounce the word fully in inner speech" (p. 275). This imagining instead of

pronouncing the word is another phonetic idiosyncrasy of inner speech. Chomsky's phonetics would not work for these idiosyncrasies (Chomsky, 2006, pp. 107-109).

Earlier I mentioned that Chomsky includes sleep talk in his definition of language. Most people never hear sleep talk except from their spouse, their lover or someone in their family. The sleep researchers say that sleep talk is usually quite fragmentary, often limited to a single word and frequently too mumbly to understand. The example I will use is from a sleep laboratory, recorded while an experimental subject, a college English student, was sleeping. The experimenter whispered the subject's name ("David") into his ear, and, in his sleep, the subject uttered these words.

David – I day David that you – that's you that day –

dated – day – dravid – dave dravid about 25 or 30

noked naked day dreams – the second dream tie

it all up – you kept bouncing them on – you kept

bouncing them on and on as if you had a regular

meter. (Arkin, 1981, p. 413).

This text seems to follow no linguistic rules, neither interpersonal nor intrapersonal. Perhaps there is a language to the unconscious and David is speaking in that medium. In any event Chomsky's idea, assuming he was serious, that sleep talk can be included under his definition of language seems unreasonable.

A Possible Objection. Interpersonal or outer speech is full of errors. The linguist abstracts from the errors and just uses the pure rules, as in Chomsky's competence. Aren't my examples of irregularities in inner speech also just errors, and cannot Chomsky simply say his system of rules is an abstraction from these errors, just as it is an abstraction from the errors of interpersonal speech?

One could call the irregularities of inner speech errors, but I think it makes more sense to call them linguistic innovations. Inner speech comes close to being a language of its own. These innovations are a second set of rules, superimposed on the ordinary rules of outer language. Vygotsky's predication, for example, which results in an abbreviated syntax, is a linguistic rule.

When you have two sets of rules, one stacked on top of the other, it is difficult to identify nonconformity or error. You need a third set of rules or agreements that sort out the conflicts between the two existing sets of rules. Since the two sets of rules contradict each other to some extent, it would be arbitrary to say which form of rule violation is an error. This would make it impossible to just abstract from the errors, however we define errors, and conclude that Chomsky's rules prevail.

While it is true that ordinary speech works within a network of rules, inner speech works within a more complicated set of controls. This set of controls might better be called a "field" (Fligstein, 2001) than a set of rules.

The most pressing control is what can merely be called efficiency. Inner speech works without an audience, except for the person doing the internal talking. This lack of an audience weakens the interpersonal linguistic rules. The special rules, identified by Vygotsky, which operate to steer our inner speech, are all of an efficiency nature. So, this field has two sets of linguistic rules, the most distinctive and pressing being those that we form to speed up and economize in the inner theater.

In addition there are at least two more controls in the inner speech field. One is our emotions. Inner speech is much more emotional than outer speech. In fact when we rehearse outer speech by first saying something internally, we usually tone down and repress our emotions. But when we just speak to ourselves without any outer speech our emotions run rampant. This theater is private, and no one but ourselves will witness our feelings.

Still another set of controls over inner speech is the unconscious, using this term for the classical emotional unconscious rather than the recently popularized cognitive unconscious (Hassin et. al., 2005). The unconscious may have its own language, or at least it might code its feelings and meanings in linguistic media. Inner speech is often close to the unconscious. Certainly the sleep talk that Chomsky seems to include in his notion of inner speech is saturated with the emotions of the unconscious.

Conclusion

I have now shown that Chomsky's attempt to make a linguistics of inner speech does not recognize the difficulties of this medium. Inner speech is much more complex and irregular than he seems to think. I will not present my conclusions as definite "implications." Rather they are things to think about.

One is that Chomsky may have taken a wrong turn. Inner speech does not seem to work for his analysis. Rather he might better have focused on ordinary interpersonal language and speech acts. On the other hand this refocusing might require greater attention to the social factor in language and to actual speech as opposed to competence.

If Chomsky is serious about defining language as inner speech, he needs to re-think the semantic and syntactic peculiarities that Vygotsky discovered. At present these peculiarities are anomalies and stand in contradiction to Chomsky's theory.

Another trait of inner speech that stands in Chomsky's way is its dialogicality. Chomsky treats his linguistics, concentrating on inner speech, as non-dialogical. But inner speech is inherently dialogical (Bakhtin, 1984, p. 293). To pretend otherwise is to ignore much of its meaning.

If linguistics were transformed into a less formal and perhaps multi-paradigmatic discipline, the humanities and the other social sciences would applaud. In the least, opening a window would be most welcome. Linguistics has been too isolated for too long.

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