Whorf, Orwell, and Mentalese

(The Molecular Sememe: some implications for semantics)

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Steven Pinker, in *The Language Instinct* (which I take to be a good representation of standard theory these days), goes after several of his pet peeves, one of which is linguistic relativism. He opens by ridiculing George Orwell and Benjamin Whorf, famous among those who claim that language structure affects the construed world and that as a result, cultures differ from each other in fundamental ways. For Pinker, this is nonsense. He believes that thinking occurs not in language but in "mentalese", an abstract representation-manipulation which occurs in all human minds in the same way, whatever their cultural background.[1]

Pinker, like Jackendoff, figures "mentalese" to be a kind of sub-verbal syntactical manipulation of underlying logical forms analogous to a computer's machine-code. Thinking goes on there, not in language, he argues; words are merely representations of the logical forms of propositions and concepts, and don't change them in any substantial way. But if words are only representations of concepts, then concepts must already exist beyond words; and of course they do in his view: he cites everyone's familiar experience of having a thought but not a word for it; or the ability of some people apparently to think in pictures or images rather than in words.

[1] See Pinker, *The Language Instinct: The New Science of Language and Mind"* (London: Penguin 1995), the chapter on 'Mentalese," pp. 55 ff.

Pinker's attack on Whorf and Orwell could be seen as just another shot in a classic, long-standing philosophical war, whether universal logic or language govern "thought".[2] Pinker despises what he calls linguistic relativists because as a cognitive scientist he believes that logic, grammar, and meaning are genetically encoded and belong to all human beings equally. They function in a "language module" which is not integrated with other functions of the brain.[3] Pinker represents the contemporary inheritors of the Platonic or Kantian tradition (sometimes called mentalism) who believe in the existence of an abstract realm of mental entities or forms or concepts which themselves can be apprehended and represented in human minds. He believes that for human thinking to occur, a human mind must possess only two things; the ability to "represent" these concepts by some form of encoding, and a "processor" which can manipulate the resulting representations. Reasoning, he would have us believe, is qualitatively the same as what is done by a Turing machine – that is, nothing more than a set of automatic syntactic procedures for manipulating representations. Add in some sensors for admitting the contours of the outside world

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[2]See Pinker, chapter 13. J. A. Fodor's *The Modularity of Mind* (1983) is the source of this idea.

[3]This philosophical conflict could be expressed in many ways. Whorf, along with Edward Sapir and Franz Boas, reflected ideas popular among European Structuralists and thought to be historically related to those of Humboldt in the 19th century and maybe even Roger Bacon in the 13th century: that language, thought, and culture are deeply inter-related, and that the semantic systems of various languages are fundamentally incommensurate with each other. In its "strong form," it implies that the nature of one's language governs the nature of ones thought. I take Orwell to represent a political application of that idea. Pinker, on the other hand, represents the currently dominant cognitive scientists, who see human cognition as genetically based and therefore universal to the species. John J. Gumperz and Stephen C. Levinson see this position as related to a classical argument by St. Augustine (fourth century) who argued that language only provides names for logical concepts which already exist. Cf. *Rethinking Linguistic Relativity* (Cambridge: Cambridge University Press's Studies in the Social and Cultural Foundations of Language 17), especially the Introduction.

and you have a "behaving organism," he says.[4] From that point, whether you then add hands and feet to make a human being, or a set of levers and wheels to make a robot, would seem to make little difference.

This theory, the "physical symbol system hypothesis" or the "computational" or "representational" theory of mind is, he says, as "fundamental to cognitive science as the cell doctrine is to biology and plate tectonics is to geology."[5] It should come as no surprise, then, to hear that the work of understanding language, for Pinker and his ilk, is a matter of understanding merely what kinds of representors and processors the brain has.[6]

My position is on the side of the rhetoricians – that is, on the side of Orwell, Whorf, Sapir, Boaz, and all those accused by Pinker of being "linguistic relativists", at least to the degree that they oppose the absolutism of the cognitive scientists.[7] I believe that while undoubtedly the human brain consists of genetically shaped electrochemical activities at some physical level, it is not a machine with an ability to directly apprehend, represent, and manipulate pre-existing logical entities. Rather, it

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[4] Pinker, p. 77.

[5] Pinker, p. 78.

[6] It seems to me that this position is extremely counter-intuitive, not to mention contradictory. Though he has earlier admitted that humans are good at what computers are poor at, and vice versa, he sees his own mind as computer-like. Though he presumably thinks of himself as an intelligent human being, he believes in a theory that does not admit the existence of human intelligence. But he does believe in a mental "representor" which can apprehend universally existing "concepts". This makes him, like Coleridge (whom he cites on page 70), seem more like a romantic transcendentalist.

[7] Actually, it's worse. I am, I guess, a linguistic pluralist. That is, I believe that some experiences are genuinely incommensurate with others, and that discourses about them might be likewise incommensurate with each other. If things were otherwise, human beings would probably communicate with each other a lot better than they do. (I'll explain more about this below.)

is an organism which is capable of receiving data from the sense organs and of forming synthetic organizations of them.

To say this – that the mind is the kind of thing that can receive data from the sense organs and order them – is only to say something that probably everybody would intuitively agree with. It seems to me nothing controversial at all to say that my eyes can provide my brain with a plethora of sensations of line and color, and that my brain can synthesize those sensations into perceptions of people, things, and events. For example, I can select certain vibrations out of the general ambient noise and enjoy music even when the saxophone player and the guitarist are playing on a busy street corner.

To say that simple thing – that the mind can take sense data and form synthetic organizations of it – is radically unorthodox within today's dominant cognitive theory. But it must be true. I want to extend the idea in a very small way. I believe it can do the same thing with language data. I want to argue that such synthetic organizations can profitably be described as molecular sememes, and that a model of ordinary language can be based on them. There are many aspects of this model,[8] and many applications of them, but for now I will be content to show how this model can account for the subjective experiences that led Pinker to argue for "mentalese", or "thinking without words".

[8] For a discussion of its application to literary meanings, see Caldwell, "Molecular Sememics: A Model for Literary Interpretation," *Meisei Review*, Vol. 15 (2000), 155-162.

Pinker is of course right about one thing: not all thinking is "in words". A plumber can think about how to repair the drain by imagining the pipe rather than the word "pipe". A composer of piano music can work by imagining the sounds, and his fingers on keys, rather than the words "C-major arpeggio". The reason, I think, is that words are not the only signs that language can manipulate. Language can order parts of the sensed world as signs, and use them in making linguistic meaning.

For instance, I can say, "How many red things do you see in your field of vision?" and you can make the red things come into focus and the other things recede into the background. If I then say, "Now look for the blue things" you can witness an instant change in your perceptual field, as the blue things come into focus and the red things recede into the background.

What have we done when we "bring something into focus"? We have used the synthesizing power of our minds to bring order, purpose, and meaning to a portion of the multifarious discreta of sensory reception. This organizing power is reflected in the salience order of discourse.[9] We can call it a perception, a finite piece of the world ordered as our discourse requires. Within that discourse it is an entity, whether it has a name or not; and we can give it a name if we want to. I believe that it is essential to recognize that language has the ability to appropriate experiential entities and bring them into discourse as deictic elements. If it weren't that kind of thing, we

[9] For a fuller discussion, see Caldwell, "Topic-Comment Effects in English," *Meisei Review* Vol. 17 (2002), pp. 48-69.

could never clearly single out individual events from the ever-changing flux of visual data and talk about them.

Describing how language organizes experience is something linguists have long tried to do. Prague-school Structuralists such as Hjelmslev long ago called discourse a **syntagmatic** organization, to indicate that it is syntax that organizes it. They also spoke of **paradigmatic** organizations, observing that the choices of words that can come in any one grammatical position in any utterance all belong to the same paradigm. This insight has been neglected for a long time, but I want to make a new use of it.

For example, how do we know what the word "white" means? The dictionary will tell us it's the name of a color familiar to us all: the color of, say, a white sheet of paper. Or white sheets. But a white man? A white dog? A white lie?

My point is that we look for these meanings in discourse and in the world, not in the dictionary. Or, to put it another way, we understand that words don't just "mean", they negotiate or marshal determinate complexes of experience in the real world. That is to say, a white man is a man who is distinguishable from those of African or Asian descent in our experience; these alternatives are brought into a paradigmatic relationship so that we can contrast them. By the same token, a white lie is not one of the dirty or malicious lies in our experience; and a white dog is not a golden retriever or a black Lab or any of a host of other dogs that we have met; and therefore we don't expect a white man and a white lie and a white dog to be all of the

same color. So that "thinking" is not just a matter of "representing" a "meaning" and manipulating it according to some syntactic rule, as Pinker would have it; it is a matter of surveying and contrasting all the possibilities within each paradigm, whether or not we have words available for all these alternatives.

But my argument differs from that of the Structuralists in an important respect. I argue that these "paradigmatic" orders are not just orders which have their relations in the lexicon. They include more than words, and they are shaped by the dictates of discourse. Discourse consists of "moves" analogous to the "plays" or "moves" in games. In chess, for instance, the "meaning" of a move is the whole complex of implications for the opponent's next move. The possibilities for that move are dictated by the discourse as a whole – that is, by all the moves that have been made heretofore. The record of these moves can be seen in the lay of the board. This record stands in presupposition to the meaning of the next move, and provides the context within which it is interpreted.

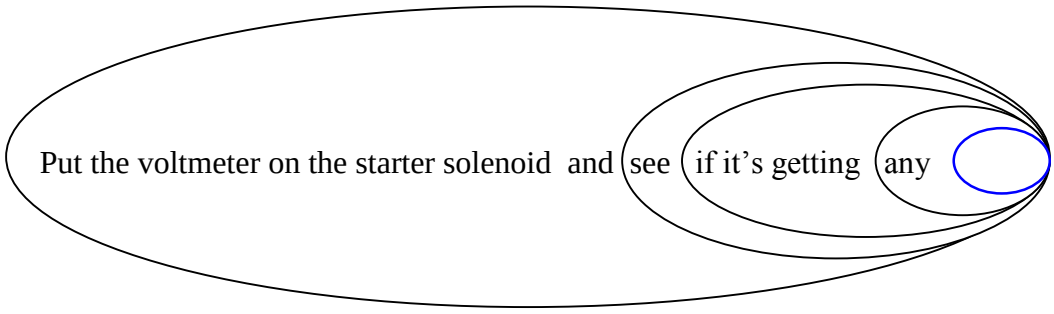
At any point in the game, then, a player has to contemplate a perhaps unnamable order of possibilities for the next play. This order of possibilities is complex. I call it a "molecule" to indicate that complexity (it is not simple, not an "atom"), and to indicate that it is a synthesis, expressed as a set of choices, of the history of the game to that point. All discourses are like this, I propose.

Schematically, we can say that each move in a discourse is an **MSES**: that is, a **"Molecule Selection and Execution Structure"**.[10]

In verbal discourse too, every utterance already committed stands in presupposition to the next utterance that must be chosen. Every move in discourse, as in chess, is a progression toward a moment of focus, in which a set of possibilities is called into play, and then one of the alternatives is chosen.

Here is a simple example of an MSES. I represent the molecule as a blank circle because it is not a single word but a focused and structured complex of possibilities. All of the elements of the discourse which have scope over it first **select** the possible contents of this molecule. Then we commit an act of linguistic choice and we name it, or **execute** it.

Suppose we have a discourse about trying to fix a broken car. One part of that discourse runs like this:



The circles are meant to illustrate, broadly, a simple point about scope (I'm ignoring grammar here). The topic of a discourse is that which has scope over the rest of the

[10] For a fuller discussion, see Caldwell, "Molecular Sememics: A Progress Report," *Meisei Review* Vol. 4 (1989), pp. 65-86.

discourse. In English, typically, every next element also has scope over the rest of it, and the most salient element – the most highly determined element – is that element over which every other element has scope. That means it is a highly ordered element, whether it is a word or a meaning or a bit of sense data. That means, to use other language, that we know what it is even if we have no word for it. We might as well call it an "idea" or a "concept" (Pinker would) and if you agree to that you must also agree that we now have a case of an idea without a word for it.

My next point is that once this "idea" is in focus, it is easy to **name** it. In fact, we usually do it so swiftly and so unconsciously that we don't have time to notice what it is we are doing, or what considerations go into the task. Before we name it, though, let's make a few observations about it.

1. We know what it is even before we have a name for it. This is so because discourse is **coercive**, in the sense that all the elements of the discourse conspire to select what content can come at the point of focus. It is a true case of an entity that we can think of without a word for it.

2. It is not a category. It is a synthetic order which belongs to a unique position in a unique sentence in a unique discourse. We will not generalize about it, because we want to insist on its status as a creature of an individual discourse, not a creature of a conventionalized syntax.

3. As I have already said, it is not simple. It is not a feature or a phone or a logical counter. It's complex, not elemental. It's **molecular**, not atomistic.

4. The contents of this molecule might be perceptual, conceptual, sensory or logical. Sometimes the contents of molecules are words themselves; sometimes contents of experience. But whatever they are, they have been brought into focus by a **discourse,** and I'm going to have to give them a **name.** If the molecule typically dictated the name (sometimes it does), I could well claim that it is a **lexeme**. But it doesn't always do that. Sometimes, as in this case, it merely presents a content to be named, and we might find a number of names that might work. So I'd rather not call it a lexeme.

5. If we do find that a number of names might work, we will also see that all of them have the same grammatical status in the sentence. Since that is the case, we might be tempted to call this unit a **taxeme.** But since the grammatical status is unique to an individual discourse rather than to a categorical rule or a syntactical convention, I'd rather not.

6. This unit, however, where the focus of the discourse is brought to bear, is the arena in which elements of the world and some word must come together. This is the arena in which meaning in language is created, and so I am going to call it the **sememe**. I believe it is the fundamental unit of meaning in language. So I call it the **Molecular Sememe.**

When it's time to read the voltmeter on the starter solenoid and give a name to what it indicates, we find ourselves doing it swiftly and unconsciously. Since we know the content already, naming is easy and not really even very important. Many words will do. "Electricity", "voltage", "power" … they are kind of dull, though. Many American mechanics would rather call it, say, "juice", and they would clearly understand that it means not fruit juice but juice in the sense of electricity.

Or we could also apply some other names – say, "moxie", "mojo", "zip", "goodies", or just plain "stuff". Each one gives it a different flavor: "energy" is accurate but not very much fun; "lightning" would probably work, but overstatements are not popular among men; "power" would be fine for someone who is not interested in joshing around. The point is that we are free to name it with some creativity, and we have the strong sense that we would know instantly which alternatives would be better or worse.[11] It's clear, for instance, that "orange juice" wouldn't work at all. "Juice" has a kind of understated casualness American men like.

So let's add one more bit of insight to the nature of this molecule: **the meaning belongs to the molecule as a whole, not just to the word supplied to name it.** Let us say it this way: *the meaning belongs to the molecule **as marked by** the name given it.* It is a temporary meaning; we won't expect "juice" to mean

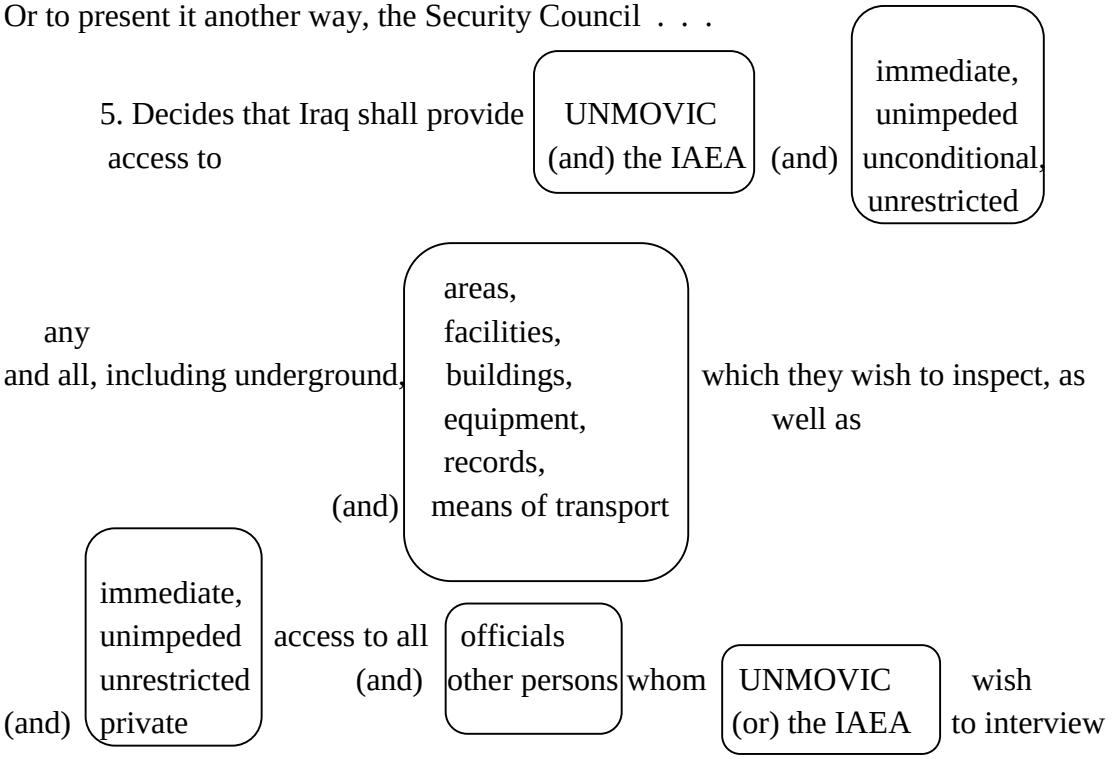
[11] This sense of knowing which words can be used appropriately testifies to the coercive power of discourse to define the molecule so precisely that fine nuances of meaning can be noticed, depending on what name or mark is given to it.

"electricity" the next time we use it. But it is the real "meaning in context" for this particular discourse at this particular time.

Other cases, of course, might be less mysterious. Often discourse focuses on meanings that are entirely conventional. And sometimes the contents of molecules are not at all subjective, but spelled out quite explicitly. Lawyers, for example, love to do that. Here is an example that is likely familiar, from the news of the war in Iraq. It's a piece of the famous United Nations resolution 1441, adopted on November 8, 2002:

> The Security Council …
> (5) Decides that Iraq shall provide UNMOVIC and the IAEA immediate, unimpeded, unconditional, and unrestricted access to any and all, including underground, areas, facilities, buildings, equipment, records, and means of transport which they wish to inspect, as well as immediate, unimpeded, unrestricted, and private access to all officials and other persons whom UNMOVIC or the IAEA wish to interview in the mode or location of UNMOVIC's or the IAEA's choice pursuant to any aspect of their mandates; further decides that UNMOVIC and the IAEA may at their discretion conduct interviews inside or outside of Iraq, may facilitate the travel of those interviewed and family members outside of Iraq, and that, at the sole discretion of UNMOVIC and the IAEA, such interviews may occur without the presence of observers from the Iraqi Government; and instructs UNMOVIC and requests the IAEA to resume inspections no later than 45 days following adoption of this resolution and to update the Council 60 days thereafter; . . . .

Or to present it another way, the Security Council . . .



In this presentation, it is clear that the contents of each salient "molecule" of meaning are being itemized in great detail. The point is to make everything as explicit as possible, leaving nothing unsaid and nothing to the imagination.

Now, you might think the U.N. wouldn't need all this verbiage, that they could have said the same thing far more cogently: "The Security Council decides that Iraq shall provide the **inspectors unconditional** access to **all** facilities which they wish to inspect, and (. . .) to all persons they wish to interview. . . .". One would think, in other words, that "unconditional" could stand clearly for all the words in that list. And, by itself, logically, it seems to. But the lawyers at the State Department spelled it out further, by itemizing a far more complex molecule of possibilities. Here, as in

all cases, the discourse selects the possible qualifiers for the word “access”. That list could contain not only “immediate, unimpeded, unconditional, and unrestricted,” but others not chosen, such as “unannounced”, “unaccompanied”, and “unmonitored”. And, as we know from the news reports, the inspections were indeed NOT always unannounced, they were often accompanied and monitored by Iraqi handlers. Thus, we see the growing precision of these terms as they all have to fit into one molecule and yet distinguish themselves from each other. The more there are in one order, the more finely they have to distinguish themselves from each other. Thus, the more precise the meanings.

In short, the way to be explicit is to fully itemize each marked element as it comes along. But this is legal language, not ordinary language. Not often does it happen that every item in the molecule is equally explicit and equally marked, but here is a case in which it happens.

When the molecule is not itemized, and it usually isn’t, it must still be given a name. The question for us is, how do we understand what it is that that name names? In the standard theory, every word has its conventional meaning in the lexicon, and every meaning is a “property” of that sign. In our understanding, though, any word, used in any position of focus no matter how momentary that focus is, is a sign that takes its meaning from the molecule as a whole. If you’ve ever wondered how it is that words can be misused, abused, bent out of all shape in daily discourse by careless speakers and writers, and yet at the same time be used with such precision by good

writers and speakers, this analysis suggests a reason. It is because the molecular sememe gives order to the contents of our thought, and definition to the words we use to name those contents.

Now let me rehearse my argument just a bit before continuing.

1. Discourse is coercive, and that coerciveness selects a content of understanding, or perception, in its most-marked moments, and presents that to consciousness as a determinate, synthetic entity. I call this entity a molecule to reflect its complexity.

2. The meaning belongs to the contents of this unit as a whole, *as marked by* (perhaps we could say *"as prejudged by"* or *"as prejudiced by"*) the chosen name. Thus, the meaning does not belong to the word itself, but to the molecule, and to the discourse that chose and focused the contents of that entity. I call the named molecule the **"sememe,"** for it is, I think, the fundamental unit of meaning in language.

3. By the way, all the alternative members of the molecule (if they are words) have the same grammatical value; or, to put it another way, the grammatical value of the chosen name belongs to the molecule as a whole, not just to the word. To put it still more strongly, it is the power of the discourse to select the contents of the molecule which creates grammatical value, prior to the conventionalizing process which compromises and regularizes it into a language-wide "system."

4. The word chosen to name the molecule gets credit, for the moment, for the meaning of the whole molecule; and so it is that words can seem to have rich,

complex, and nuanced meanings in particular discourses. Yet, as they are mere signs, the meanings don't really belong to such words, and they can't be counted on to carry the same meaning into the next discourse. (But if they do name the same or similar contents over and over, they can become conventionalized and seem to carry a certain meaning permanently.)

But here is the point that makes these examples relevant to Whorf, Orwell, and Pinker:

5. Since there is a rich complex of material residing in each molecule that we are unconsciously aware of, might it not be that thinking means *processing the other contents of the molecule*? Even the unstated other contents are ordered, determinate, and meaningful. They are always in our minds, not quite named, but potentially namable, and provide the contents of "thoughts" that underlie our words.

Let us consider some other examples. After that I want to exhibit several kinds of logics that come out of those examples, and demonstrate how unsaid, unarticulated but ordered and determinate contents are presented to mind – in short, how "thoughts" are present far above and beyond what we actually say or articulate in words.

When I was growing up I had three younger sisters. When my mother called one of them, she often got lost in their names. "Delia---?" she'd say, "Jane? Margaret?". It seemed obvious that she held in her mind a "molecule", not always fully articulate, of daughters. Now, this was not a logical category. She didn't say,

'Daughter!", nor would she have been satisfied with whichever daughter answered. No, she had in mind a particular daughter, or at least a particular aspect of this group of girls (it might have been, for instance, the blond one – or the one who could play the piano – or the one who least minded being asked to dry the dishes), and she expected fully that the name of any one of them could serve as the name for any other of them. If they could read her mind, they would have known exactly which one of them she meant.

Now, I just said, and I believe it, that the name of any one of my sisters could stand, in my mother's head, for any one of them. That is hardly logical. In fact, that must sound awfully peculiar to those who are committed to categorical or Aristotelian logic. It makes it important to reiterate that **the molecule is not a category**. It does not belong to the epistemology of generalization and abstraction, of induction and deduction.

But it's not absurd either. There are other cases in which naming one of the contents might as well name any of the others. Last year President Bush, in a speech that shocked the world, said, "The United States has no plan to invade North Korea." From a logical point of view, there is no reason why a statement like that should shock anyone, but at the time many people said, "What??? Invade North Korea! Is he really thinking about that??"

Why? It must be clear that whenever something is denied, it must be first presented to consciousness. Politicians know well the uses of such rhetoric. A

negation can establish an agenda just as well as an affirmative claim can, and selective negation can create false positives. For example, on June 1, 2003, President Bush (or his speech-writers) artfully composed another negation: "For those who say we haven't found the banned manufacturing devices or banned weapons [in Iraq], they're wrong, we found them."

Aerial photographs had located some wagons that might have been used to manufacture some kind of chemical. Of course the President did not want to be accused of literally claiming that banned weapons had been found, because that would have been a lie. But by linking them with "manufacturing devices" he seemed to give them the same status, and by denying their denial, he implied their existence. In fact, later information demonstrated that even the "manufacturing devices" couldn't manufacture anything illegal; but that was later. So once again, the President implied the discovery of WMD's without lying about it, at least not technically.

How does the rhetoric of negation work? A negative typically negates one term of a complex molecule, but first it implicitly affirms the molecule as a whole. So a rich complex of information is presented to our consciousness whether we are given words for that information or not. Bush's use of negation, contrived by an expert speech writer, was far more effective than Clinton's. Clinton's famously defensive "I did NOT have sexual relations with that woman!" did not, as it turned out, effectively deny the allegation. Rather, it left everyone wondering what he DID have with Monica Lewinsky, if not (something he might narrowly define as) "sexual relations".

There are many dynamics possible within the molecular sememe. Negation is only one of them. I have already mentioned some others, such as naming (including metaphorical naming) and itemizing. Thus, if "thinking without words" means mentally playing among the other, unmarked or unnamed contents of molecules, there are several forms of such play. One can **query or interrogate** a molecule by itemizing alternative ways to mark it. One can mark or name molecules in **overstated** or **understated** ways, and create different rhetorical effects. Oblique general labels create **metaphors** as we saw above; we can manipulate careful degrees of **generality** or **particularity**. Various rhetorical effects result depending on whether one names the molecule itself (as question words like "who" or "when" do), or merely a counter in the molecule. Or whether the molecule contrasts words or contents. Then too, the relations among the contents of the molecules may themselves suggest a variety of logics. Is the relation between "safe" and "out" the same as, or different from, the relation between "strike" and "ball"? Or between "saving" and "spending"? Between "bulls" and "bears"? "Digital" and "analogue"? "Electric" and "acoustic? "Regular" and "Lite"? "Standard" and "automatic"? A logician might say that they all contain a logic of opposition or negation. But the opposition is within a different discourse (and therefore a different molecule) each time; and, like a little universe, every discourse is essentially and qualitatively different from every other.[12]

[12] When I say this, I mean it in a prototypical sense. Obviously, much has been conventionalized in discourse, and this means that many discourses take similar explanatory routes to clarity, and their logics tend to resemble each others'. But the essential tendency of discourse towards uniqueness is very real too.

On one level, this is merely a reiteration of an old Structuralist argument popularized by Kenneth Pike, namely, that relations among words are "emic" rather than "etic": they find their meaning in contrast with each other, rather than with an objective or logical norm.[13] My revision of that argument is that words find their meanings not by contrast to every other word in the lexicon, but only by contrast to the other words in the molecule, all of which have been chosen by one particular discourse. We must recognize another essential fact forgotten by the cognitive scientists and the linguistic relativists both: language doesn't just *encode* the world. It would be more accurate to say, as I have shown above, that we *bring parts of the world into* discourse. What we communicate with each other is interpretations and perceptions of the world. We don't do that by *constituting* (or *reconstituting*) the world in our language, but by ordering it, marshaling it, and focusing our attention on certain aspects of it, through the coercive power of discourse. We have to remember that the world is always there before our words are uttered; by bringing it into discourse by means of the molecular sememe, we turn parts of the world into language. In some cases, the relation between discourse and the world may be something like the relation between the orchestra's conductor and the orchestra. His

[13] Cf. Pike, *Language in Relation to a Unified Theory of Human Relations*, The Hague (Mouton, 1967).

baton, we might think, creates the music; but it doesn't *constitute* the music; it only brings it to a focus, makes a discourse of it.[14]

As for linguistic relativism, it is not just that whole languages are incommensurate with each other; to some extent, even within one language, discourses are incommensurate with other discourses.[15] But if linguistic relativism is within each of us, can it really be said to be a cultural matter?[16] Whorf was right; language, thought, and culture (even *local* culture) are indeed interdependent. But maybe this leads not so much to the concept of linguistic *relativism* as to, as I would argue, linguistic *pluralism.* That is to say, perhaps it would be important to recognize that any language can express many construals of reality, and so can any one speaker. Indeed, experience teaches us that people's capacity to misunderstand each other is almost total, even when they come from the same culture and refer to the same sets of facts. Typically such speakers are not aware that the implications or presumptions of one discourse are incompatible with those of the next one – after all, it is extremely difficult to think in more than one paradigm at a time. But perhaps it is not at all odd

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[14] By the way, music *is* a form of discourse, and its phrases and gambits create molecule selection-and-execution structures, just as human sentences do.

[15] It might be argued, for example, that on a simple level, the discourse of golf is incommensurate with the discourse of baseball. The word "steal" has no meaning in golf, and the word "putt" has no meaning in baseball. Paul Kay points out that the expressions "loosely/strictly speaking" and "technically speaking" both refer to coherent theories of how words refer to objects, but that the two theories are radically different from each other. For a thorough discussion of this issue, see Paul Kay's essay "Intra-speaker Relativity," in Gumpers and Levinson (1996), pp. 97- 114, particularly p. 99.

[16] Kay, p. 101, argues that at least the "consequences (of linguistic relativism) for intercultural communication, and so on, may be less dire than often supposed."

to recognize that when it comes to ordinary language, we may **not** be appealing to an assumption that the truth is one, or that there is only one over-arching logic which gives consistency to all our utterances.

Perhaps the real importance of learning to think about the molecular sememe is that it provides a way of thinking about thinking that does not depend on the classical structures of generalization, categorization, induction or deduction. Molecular sememes are indeed synthetic structures, and thus are capable of generating highly nuanced and precise meanings and implications. I argue that through the model of the molecular sememe, we can find a way of talking about meanings rather than about codes, and that it will further our understanding of what language is.

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