W(h)ither Semantics!(?)

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I. Partee [1979]

A. Worry: that two views of what semantics is place conflicting demands on semantics.

1. On the one hand, there is the view Partee attributes to Chomsky and his followers on which semantics is a part of psychology: *psychological semantics*.

B. On the other hand, there is the view that Partee, following Rich Thomason in Montague [1974], attributes to Richard Montague on which semantics is a branch of mathematics.

1. Specifically, semantics is just a type of *model theory*.

2. Chang and Keisler [2012] open their book on model theory with the following remark:

Model theory is the branch of mathematical logic which deals with the relation between a formal language and its interpretations or models.

C. Partee’s main worry: psychological semantics and mathematical semantics make idealizations, as all sciences do, but that they make idealizations that are *incompatible*.

1M. The objects of the propositional attitudes are the semantic values of sentences.

2M. The semantic values of expressions are *intensions*, (total) functions from possible worlds to (appropriate) extensions.

1P. Speakers of languages know their languages (i.e. know the semantic values of expressions of their languages).

2P. The brain is finite (i.e. the brain can only represent a finite number of things).

D. Whether or not Partee’s proposed reconciliation would work for a certain fragment of a language, she thinks that propositional attitude sentences scotch it.

E. The first problem: assume *S* and *S’* have the same intension

1. Megan believes S.

2. Megan believes S’.

1. Crucially, even super competent god who grasps the alleged complete Montague/mathematical semantics for English would not think 2 follows from 1.

F. There are at least two things to say in response to this.

1. The first, dear to the heart of a structured content advocate like me, is to say that yes, possible worlds semantics *is* an over-idealization in the case of propositional attitudes.

2. The other option is to hold that 2 *really does* follow from 1.

a. Perhaps one would even want to add that a super competent god would see that it does.

b. One would then try to give a non-semantic explanation of why it doesn’t seem to.

G. The second difficulty Partee cites is really a special case of the first, though it concerns lexical meanings.

1. Assume that mathematical semantics gives us a semantics on which semantic values for names are or determine *constant* functions from worlds to individuals.

a. Then, of course, ‘Hesperus’ and ‘Phosphorus’ have the same intension or referent.

2. That means, of course, that the following sentences express the same proposition:

3. The ancients didn’t know that Hesperus was Hesperus.

4. The ancients didn’t know that Hesperus was Phosphorus.

H. We have the same menu of options here as before.

1. First, we could alter our semantics in such a way that 3 and 4 don’t express the same proposition; and do so in such a way as to make plausible that 4 could be true and 3 false.

a. A common thought is to bring *guises* or *modes of presentation* into one’s semantics for verbs of propositional attitude in some way or another.

2. Second, we could hold that though 3 and 4 express the same proposition and so cannot differ in truth-value, they seem to us to do so for non-semantic reasons.

II. Chomsky’s Internalism and Psychological Semantics

A. Chomsky’s universal grammar

1. We have a species wide, innate, biologically endowed faculty of language (FL).

2. It’s initial state Chomsky calls *universal grammar* (UG) or *S0*.

a. This is a state of the human mind/brain.

3. One job of a theory of language is to characterize this state.

a. Linguists’ theories of UG are attempts to do this.

B. Chomskyan I-languages

1. Upon being exposed to sufficient amounts of primary linguistic data, the faculty of language passes from the state S0 to a relatively stable state Ss.

2. Being in such a state Ss is to have or cognize a particular language.

3. Again, the state Ss is the state of the mind brain and is an I-language.

4. One job of a theory of language is to characterize these particular states Ss.

a. Linguists phonological, syntactic and semantic theories of particular languages are attempts to do this.

III. General Chomskyan Themes

A. A given I-language is the relatively stable state Ss of a particular speaker’s mind/brain attained as a result of exposing the initial state S0 of FL to primary linguistic data.

B. There is a sense in which Chomsky denies the existence of any public languages like English and Chinese.

C. Because for Chomsky the theory of language is concerned with characterizing internal states of speaker’s minds/brains, he often calls his approach to the study of language *internalist*.

IV. Internalism and semantics: the question

A. Does any of this conflict with semantics as practiced by current mainstream semanticists?

1. For example, a standard Heim Kratzer [1998] style approach to the (extensional) semantics of natural language makes names type e and 1-place predicates type <e,t>.

a. On such a view, say that names and 1-place predicates *refer* to things in the real world (single individuals and all the individuals they are true of, respectively).

2. Call a semantics like this *externalist*.

B. Our question: assuming Chomsky is right to this point, when we turn to semantics are there reasons for rejecting externalist semantics?

V. Internalism and semantics: more background

A. Lexical items, and linguistic expressions generally, have a sound and a meaning.

1. Because of this, Chomsky holds FL interacts with at least two other systems in the human mind/brain:

a. The phonological features of a word provide information about a word’s sound to the articulatory-perceptual system;

b. The semantic features provide information about its meaning to the conceptual-intentional system.

B. A word like ‘book’, Chomsky says, has as semantic features that it is used to refer to an artifact and that it is nominal.

1. The word ‘bank’ in the sense of financial institution has as semantic features that it can be used to refer to concrete buildings of a certain sort (‘The bank burned down.’) and that it can be used to refer to a certain sort of financial institution (‘The bank raised interest rates.’).

2. The word ‘bottle’ has as semantic features that it can be used to refer to containers of a certain sort and that it can be used to refer to the contents of containers of that sort (‘The baby finished the bottle.’).

C. Chomsky seems to say that semantic features play a role in explaining at least two things:

1. That a word is used by X to refer to a certain thing(s)

2. Certain sorts of entailments.

D. Chomsky’s claims about the semantic features of ‘book’ and ‘house’ suggest that a word’s features can *conflict* in the sense of placing incompatible demands on what it can be used to refer to (something material vs. something abstract).

E. Chomsky’s idea here is that language users can attend now to one and now to another of the conflicting semantic features of a word, or even to both at the same time.

1. Chomsky [2000b] illustrates this latter possibility with ‘book’ in the following passage:

Investigating language use, we find that words are interpreted in terms of such factors as material constitution, design, intended and characteristic use, institutional role, and so on. Things are identified and assigned to categories in terms of such properties – which I am taking to be semantic features – on a par with phonetic features that determine its sound. The use of language can attend in various ways to these semantic features. Suppose the library has two copies of Tolstoy’s *War and Peace*, Peter takes out one, and John the other. Did Peter and John take out the same book, or different books? If we attend to the material factor of the lexical item, they took out different books; if we focus on its abstract component, they took out the same book. We can attend to both material and abstract factors simultaneously, as when we say that “the book that he is planning will weigh at least five pounds if he ever writes it,” or “his book is in every store in the country.”

2. Concerning the examples involving Peter and John and the unknown author last mentioned, call him ‘Bill’, consider the following sentences:

5. Peter and John took out the same book.

6. Peter and John took out different books.

7. Bill’s book is in every store in the country.

8. The book Bill is planning to write will weigh five pounds if he ever writes it.

9. The bank burned down and it moved across the street.

VI. Chomsky’s first argument against externalist semantics

A. One more caveat first.

1. Chomsky sometimes rails against the idea of an expressions having a referent *in a public language*.

2. Let’s ask whether he offers any arguments that show that we can’t or shouldn’t have externalist semantics *for I-languages*.

B. Here is a quote in which Chomsky gives an argument that Jone’s I-language cannot be given an externalist semantics:

Contemporary philosophy of language follows a different course. It asks to what a word refers, giving various answers. But the question has no clear meaning. The example of “book” is typical. It makes little sense to ask to what thing the expression “Tolstoy’s War and Peace ” refers, when Peter and John take identical copies out of the library. The answer depends on how the semantic features are used when we think and talk, one way or another. In general, a word, even of the simplest kind, does not pick out an entity of the world, or of our “belief space.” Conventional assumptions about these matters seem to me very dubious.

C. This argument is only as strong as the claim that data like 5-9 above cannot be accounted for by an externalist semantics.

D. This claim strikes me as rather weak.

1. 5 and 6 appear to be an instance of polysemy.

2. The natural thing for the externalist to say in this case is that count nouns like ‘book’ quite generally have one meaning on which they refer to book tokens and another meaning on which they refer to book types.

E. The explanation given of the data 5-9 posits polysemous meanings of ‘book’ corresponding to *book type* and *book token*.

1. Similar explanations could be given of the relevantly similar data involving Chomsky’s other examples ‘bank’, ‘bottle’, ‘door’ and so on, except that for these examples the relevant polysemous meanings won’t correspond to the type/token distinction.

VII. Chomsky’s second argument against externalist semantics

A. A second argument Chomsky offers against externalist semantics is that positing real world references for words will involve us in inextricable puzzles.

B. The example I’ll focus on here is ‘door’.

1. You can paint the door; and you can walk through the door.

2. Chomsky then writes

Note that the properties of such words as “house,” “door,” “London,”

“water,” and so on do not indicate that people have contradictory or otherwise perplexing beliefs. There is no temptation to draw any such conclusion, if we drop the empirical assumption that words pick out things, apart from particular usages, which they constrain in highly

intricate ways.

C. It is easy to see that the externalist semantic theory that posits multiple polysemous meanings provides a response to this argument as well the first.

VIII. Chomsky’s third argument against externalist semantics

A. Chomsky sometimes suggests that a similar argument to the one involving ‘door’ can be given involving expressions such as ‘Joe Sixpack’, ‘the average man’ and the like:

Suppose Peter says that Joe Sixpack voted for a living wage because he’s worried about his child’s health. Are we entitled to conclude that Peter believes the world to be constituted of such entities as Joe Sixpack, living wages, and health, and relations like voting-for and worrying about that hold among them?

1. What should we say about a case in which Peter said that Joe Sixpack voted for a living wage?

IX. Chomsky’s fourth argument against externalist semantics

A. Chomsky gives another argument against externalist semantics that involves ‘the average man’.

B. Chomsky [2000b] considers the following sentences:

10. a He thinks the young man is a genius.

b The young man thinks he is a genius.

c His mother thinks the young man is a genius.

C. Chomsky is imagining stating the principles of Binding Theory in terms of some notion of *coreference* and *being disjoint in coreference*, and writes:

Within internalist semantics, there are explanatory theories of considerable interest that are developed in terms of a relation R (read “refer”) that is postulated to hold between linguistic expressions and something else, entities drawn from some stipulated domain D (perhaps semantic values). The relation R, for example, holds between the expressions *London* (*house*, etc.) and entities of D that are assumed to have some relation to what people refer to when they use the words *London* (*house*, etc.), though that presumed relation remains obscure... Explanation of the phenomena of example [10] is commonly expressed in terms of the relation R. The same theories of binding and anaphora carry over without essential change if we replace *young* in example [10] by *average*, *typical*, or replace *the young man* by *John Doe*, stipulated to be the average man for the purposes of a particular discourse… In terms of the relation R, stipulated to hold between *the average man*, *John Doe*, …and entities drawn from D, we can account for the differential behavior of the pronoun exactly as we would with *the* *young man*, *Peter*,… It would seem perverse to seek a relation between entities in D and things in the world – real, imagined, or whatever –at least, one of any generality.

D. Chomsky’s point is that the relation R (“reference”) he mentions above will be used to state the principles of Binding Theory.

1. But since those principles work equally well in a case in which ‘the average man’ or ‘John Doe’ replaces ‘the young man’ in 10, and since we know that ‘John Doe’/’the average man’ don’t designate an individual in the way ‘the young man’ does, the relevant notion of “reference” R cannot be the relation between words and real world referents posited by the externalist.

E. I actually pretty much agree with what Chomsky says here.

1. I don’t think the need to state Binding Theory motivates or requires the externalist’s reference relation.

2. But that is far from a general argument *against* such a relation.

F. What are we trying to do or explain in formulating a semantic theory?

G. Our semantic theories should play a significant part in explaining:

1. Productivity: speakers can produce and understand novel complex expressions.

2. Transfer of information: speakers are able to efficiently and systematically convey information to each other using sentences of the language they share (related to 1).

3. Logical relations: speakers make robust judgments about entailment relations between sentences (taken relative to contexts).

4. Truth and falsity: speakers make robust judgments about the truth or falsity of sentences taken relative to contexts and circumstances of evaluation.

H. It is now easy to see how to motivate a Heim Kratzer type externalist semantics on which names are type e and get assigned real world individuals by our semantics and 1-place predicates are type <e,t> and get assigned sets of individuals by our semantics.

X. Speaker intuitions/judgments

A. Chomsky correctly notes that any notion of *reference* or *semantic value* or etc. employed by externalist semanticists to label a relation between words and real world entities is a technical notion.

B. Chomsky concludes from this that it is we can have no intuitions about what things stand in the relation the term applies to since the theory just tells us what things do.

a. He thereby seems to be chastising externalist semanticists who in defending semantic theories appeal to intuitions about what words refer to in various cases (e.g. Kripke [1980] in Gödel/Schmidt cases; Putnam [1975] on ‘water’.).

XI. Pietroski channeling Chomsky

A. In defending the view that semantics does not assign truth conditions to sentences, Pietroski is arguing against externalist semantics and in favor of a view on which semantics is concerned only with Chomskyan internalist semantic features of linguistic expressions.

1. The idea is that subsentential expressions don’t have the kinds of semantic values (even relative to context) that will compositionally determine truth conditions for sentences.

2. That an utterance or use of a sentence has a truth condition (in a context) is taken by Pietroski, again following Chomsky, to be an *interaction effect* between internalist semantic features of sentences (and their constituents) and “a host of facts less amenable to theorizing, like facts abut how “reasonable” speakers would *use* the sentence.”

B. The first example to illustrate this concerns the following four sentences

11. Unicycles have wheels. (T)

12. Jim’s unicycle has wheels. (F)

13. Cars have wheels. (T)

14. Jim’s car has wheels. (T)

15. I have wheels. (F)

1. Pietroski’s challenge is for the externalist to complete the following characterization of the function from individuals to truth-values she claims is the semantic value of ‘has/have wheels’ in such a way as to capture the data given by 11-15:

(HW) λx.*true* iff …

C. *Prima facie* there are two options for the externalist:

(HWs) λx.*true* iff x has at least one wheel.

(HWp) λx.*true* iff x has at least two wheels.

D. In Pietroski’s view, neither works.

1. HWs incorrectly makes 12 true.

2. And HWp doesn’t seem to explain how 11 manages to be true since we can’t say that 11 is true just in case every normal unicycle has at least two wheels or just in case {x: x is a unicycle} bears the right generic relation to {x: x has at least two wheels}.

E. Pietroski considers the idea ‘has wheels’ denotes HWp, which makes 12 false and 14 true as desired, while claiming that ‘have wheels’ denotes HWs making both 11 and 13 true as desired.

1. But he notes that this would incorrectly make 15 true as uttered by a unicycle.

F. Finally, he considers the view that ‘has wheels’ denotes HWp, and that ‘have wheels’ is ambiguous between HWs and HWp, and generally denotes HWp but in generic sentences like 11 and 13 denotes HWs.

1. To this Pietroski responds “One begins to wonder, though, if this is a theory of meaning or just a stipulation of the facts.”

2. So the challenge is for the externalist to say something about the semantics of ‘has wheels’ and ‘have wheels’ that accounts for 11-15 without seeming *ad hoc*.

G. It seems to me, however, that there is a non-*ad hoc* view the externalist can defend here after all.

1. ‘has/have wheels’ denotes HWp with singular subjects and HWs with plural subjects.

2. This makes 11,13 and 14 true; and 12 and15 false as required.

3. It also correctly handles the following

16. All/Some/Most/Many unicycles have wheels. (T)

17. Those unicycles have wheels. (T)

18. We have wheels. (T)

19. Those have wheels. (T) (vs. This has wheels. (F))

4. Finally, it correctly predicts the contrasts between the following sentences

20a. Each unicycle has wheels. (F)

20b. All unicycles have wheels. (T)

21a. You [2, singular] have wheels. (F)

21b. You [2, plural] have wheels. (T)

H. 11 and 13 (holding fixed how the generic is interpreted, etc.): 11 puts the same demand on unicycles that 13 puts on cars (that each unicycle/car in question have at least one wheel).

1. Any feeling to the contrary results from our world knowledge that cars generally have 4 wheels.

2. World knowledge can creep in in other cases where it would be very strange to think there really are truth conditional differences:

22a. All humans have hands.

22b. All humans have heads.

XII. An argument against externalist semantics from generics?

A. Chomsky [1977] and Pietroski [2003] often cite complex data involving generics in favor of their views.

23a. Beavers are mammals.

23b. Beavers build dams.

23c. Dams are built by beavers.

XIII. A final try: bathhouse cleaning, stereotypes and literal genies

A. The final argument concerns the following sentence

24. The bathhouse will be cleaned at 10AM.

B. Pietroski reports that he and his wife saw this sentence displayed in a Swiss campground and that when 10 AM came around they found a maintenance team cleaning the *outside* of the bathhouse.

1. In fact, the inside was cleaned as well, but Pietroski asks us to imagine that *only* the outside had been cleaned.

C. If we say that 24 would have been false in this situation, this amounts to saying that ‘cleaned’ means *cleaned the inside of*, which makes 24 equivalent to the following:

25. The inside of the bathhouse will be cleaned at 10 AM.

3. C*leaning* can’t amount to *cleaning inside* generally on pain of the following being false when Norbert dusts the surface of his globe:

26. Norbert cleaned his globe today.

D. So here again, it appears that which function from object to truth-values ‘cleaned’ denotes depends on the kind of thing you are talking about, what your are interested in and so on.

E. In response, the externalist should agree with Pietrsoki that *something* has gone wrong in the case in which the maintenance crew washes only the outside of the bathhouse in the campground where 24 is displayed.

1. But she should resist the idea that she should capture this by having 24 come out false in that situation.

F. One way of seeing *something* went wrong in the scenario is the following.

1. Having seen 24 displayed and noting the less than immaculate condition of the inside of the bathhouse, suppose we decided to wait for the cleaning crew and enter after they had finished cleaning.

2. We would be surprised and amused, if not disturbed, to see them scrubbing only the outside and leaving.

G. Why do we react so?

1. Having seen 24, it is natural for the campers to expect that a cleaning of the *inside* of the bathhouse will occur at every 10 AM.

H. But none of that makes 24 *false* if only the exterior gets cleaned at 10 AM.

1. A Miami Herald article from August 29, 2014 read “house cleaning MEANS THE EXTERIOR TOO” and went on to extol the virtues of and methods for cleaning the exterior of your home.

I. Similar points apply to the case of 26 and Norbert’s dusting his globe’s exterior.

1. If Paul were to utter 26 and I walked into Norbert’s office at the relevant time to find him scrubbing the *inside* of his globe, I perhaps will feel misled but should judge 26 true.

2. In the case of globes, there is a *normal* or *stereotypical* way of cleaning them.

3. Now it is a quite general feature of communication that when one describes a situation in a simple, straightforward way without qualification, if there is a stereotypical way of satisfying the description, one *conveys* that it is satisfied in *that way*.

a. Though I would disagree with much of what he says about it, Levinson [2000] has what he calls the *I-principle* that he thinks of as a heuristic for pragmatically conveying information and that he glosses as: *what is expressed simply is stereotypically exemplified*.

J. I’ll close by saying that I think these points apply to lots of allegedly puzzling cases in the literature in which people cut grass with sowing scissors and so on.

1. In such cases it is true that people are cutting the grass, but in saying only that you *convey* something false: that they are doing it in the stereotypical way.

K. As evidence that people think the relevant sentences are literally true in non-stereotypical situations, I’ll note the existence of *Literal Genie* or *Make A Wish* threads on the internet.

1. A typical example:

A: I wish I owned an airplane.

B: Granted, but it has no wings or engine.

L. If we assume that “granters” are trying to grant the literal content of the wish (it’s called *Literal Genie* after all), this example seems to illustrate the phenomenon in question.

M. The following would be a completely appropriate, if less than hilarious, entry on such a thread suggesting that ordinary folk take 24 to be true in the scenario imagined:

A: I wish they would clean the bathhouse at the campground.

B: Granted, but they only cleaned the outside.