Class 20 - The New Intensionalism

I. Katz's project

The assigned readings for this class are the introduction and first chapter of Jerrold Katz's last book, *Sense, Reference, and Philosophy* (SRP).
Katz was probably the most important defender of both rationalism and platonism in linguistics in the latter part of the twentieth century.
He also defended platonism in mathematics, the view that the abstract objects of mathematics exist.
Katz had been a colleague of Chomsky's, at MIT, before moving to the Graduate Center at CUNY, where he was my dissertation adviser.

Chomsky promoted what has come to be called nativism in linguistics.
We will discuss Chomsky's nativism a bit, at the end of the term.
Nativism is the view that we are born with an innate capacity, or propensity, to learn languages.
This innate capacity can be represented by the theorems of a universal grammar (UG) that is built into our brains or genes.
Katz, taking Chomsky's conclusions one step further, argued that language are abstract objects, and that our abilities to learn them are not based in their innateness in our brains or genes, but in our ability to reason about languages.
The difference between Katz and Chomsky is that Chomsky's project requires physical structures in the brain to account for the nativism, but no special faculty of intuition.
Katz's project requires a special faculty of intuition, but makes no commitments to the physical basis of that faculty.

SRP is the culmination of a career's work developing a rationalist response to Frege, one which accepts the third-realm view of propositions and other abstract objects, but which does not have the problems that beset the Fregean view.
The last chapter of SRP, which I did not assign, contains many examples of how Frege's view of sense and reference runs into difficulties, where Katz's new intensionalism does not.
Consider the examples which Katz cites in our selection, and which we have seen already: Putnam's robot cats from Mars and Twin Earth water cases.
Putnam presented the problem as the incompatibility of the following three propositions:

> A. Our thoughts determine the meanings (senses) of our sentences.
> B. Sense determines reference.
> C. Reference can vary without variation in thought.

The example supports C: whether Fluffy is a cat or a robot, and whether we are drinking water or twater, depends on facts that are unavailable to us.
B defines the Fregean view.
Putnam rejected A, and concluded that meanings were, in part, external to our thoughts.
In contrast, Katz argues that we can hold on to A, and give up B.
Abandoning the Fregean view that sense determines reference defines Katz's project.
Instead, Katz argues that the theory of sense is completely autonomous from the theory of reference, though sense continues to mediate, even if not determine, reference.

So, for another example, consider Putnam's aluminum/ molybdenum examples.
The sense properties of each are not sufficient to distinguish the two extensions.
They constrain, to some degree, our abilities to pick out the two metals.
But, we can not from the senses themselves, determine the references of those terms.
The theory of reference will have to accommodate other factors in determining how we refer.
Among those factors will be the role of the community and the division of linguistic labor, and pragmatic considerations of communication.
Such factors are independent of the meanings of the terms, but relevant to our references.

II. The thin notion of sense

In place of the definition of sense as the determiner of reference, Katz defines sense as that which determines intensional properties.

> D: Sense is that aspect of the grammatical structure of sentences that is responsible for their sense properties and relations (e.g. meaningfulness, meaninglessness, ambiguity, synonymy, redundancy, and antonymy).

Once we give up the Fregean requirement that sense determines reference, we are free to define sense autonomously.
Senses are, for Katz, entirely defined by their intensional properties, rather than by their referential properties.

Defining senses according to intensional properties means that D violates the anti-circularity condition on definitions of meaning, on semantic theory.
Recall Quine's argument in "Two Dogmas" about the closed circle.
Quine noticed that we could define the analyticity of 1 in terms of 2.

> 1. All bachelors are unmarried.
> 2. Necessarily, bachelors are unmarried men.

But, he argued that such a definition was unacceptable because it explained one intensional idiom (synonymy/analyticity) in terms of another (modality).
Such circular definitions do not reduce the intensional to the extensional.

> Our argument is not flatly circular, but something like it. It has the form, figuratively speaking, of a closed curve in space (Quine, "Two Dogmas of Empiricism", 68).

I mentioned in the discussion of Quine, that we would examine a distinction between virtuous and vicious circles.
If we had a set of inter-theoretically linked intensional terms, we could justify the whole group by appealing to their systematic virtues for the intensional idioms themselves.
Katz's D is exactly that approach.
It is a thin notion of sense, one which works only on the intensional level, as opposed to a thick, Fregean notion of sense, which reaches all the way to the level of reference.

Katz argues that the circularity of D is not a problem, since it is a theoretic definition.

We accept theoretical definitions on the basis of the whole theory they yield, rather than on the basis of a reductive explication.
Consider the definition of logical consequence, as following (from axioms, or other premises) according to prescribed rules of inference.
We define the rules of inference in terms of the consequences they yield, and we define logical consequence in terms of the rules of inference.
Then, we look at the entire logical theory to see whether it is all acceptable.

> In grammars conceived of as hypothetico-deductive systems, there is nothing circular about axiomatically defining the members of a family of linguistic concepts with respect to one antoehr, sicne the acxiomatically expressed relations among the members reveal their interconnections. There is nothing arbitary either, since the axioms can be judged in terms of whether their consequecnes are confirmed by the linguistic facts...D is a theoretical definition. In using concepts belonging to the same family as the definiendum, D specifies the part of grammatical structure which is sense structure. this general specification of sense is fleshed out in the process of mutually adjusting definitions of sense properties and relations to representations of sense structure in the process of accounting for instances of such properties and relations of expressions and sentences in the language ("The New Intensionalism", 698-9).

In our selection, Katz points out that if we rule out defining sense in terms of sense properties, then we would have to rule out defining logical consequence in terms of its logical properties.
Quine's arguments against the autonomy of sense would boomerang on his defense of logical truth, pp 18-20.

For Katz, senses are both compositional and decompositional.
We start with the senses of morphemes, which, along with idioms, are the atomic particles of the language.
Then, the senses of larger expressions are composed of the senses of their component parts.
We posit decompositional sense structure of the morphemes as an inference to the best explanation of the sense properties of larger expressions.
For example, we posit senses to explain the ambiguity of the main clauses of 5 and 6.

> 3. I never repeat gossip, so ask someone else.
> 4. I never repeat gossip, so listen carefully.

The evidence to which we appeal in ascribing senses is purely linguistic, rather than referential.

III. Rehabilitating analyticity

Katz's non-Fregean intensionalism vindicates the Kantian notion of analyticity.
A sentence is analytic, according to Katz, just in case it has a referring term with a sense that contains the sense of the entire sentence.
Note that Katz saves analyticity only at the expense of the Fregean view of analyticity.
Remember the distinction between the Kantian and the Fregean notions of analyticity.
Both relied on conceptual containment.
Kantian analyticity is beams-in-the-house containment.
Fregean analyticity is plant-in-the-seed containment.

Kant, motivated the *Critique of Pure Reason* by wondering about the possibility of synthetic a priori propositions, like most mathematical sentences.
On Frege's theory, most mathematical propositions turn out to be analytic, since they are derived from axioms (seeds) using rules of inference which are obviously truth-preserving, and analyticity-preserving.
Katz argues that the fruitfulness of Frege's characterization of analyticity, eliminating the class of synthetic a priori statements, does not make it useful.

Frege based analyticity on his system of logical inference.
For Frege, a sentence will be analytic if it follows from the rules of logic.
But Fregean logic can not explain all instances of what we might intuitively think of as analytic.
For instance, consider the color incompatibility problem.

> 5. Nothing is simultaneously red and green (10).

Properly understood, 5 has the air of a necessary truth, because of its analyticity.
But, Frege's notion of analyticity can not capture that fact.
We could, with Carnap, introduce a meaning postulate from which the analyticity of 5 follows.
But, as Quine rightly argued, we need to explain why it is analytic, not merely label it as such.

Katz argues that Frege's notion of analyticity, based on his rules of logic, not only misses some inferences, it also ascribes analyticity to too many statements.
Consider the following inference:

> 6. $P \vdash P \vee Q$

According to Frege, 6 is analytic.
But, can you really analyze 'P' and find 'P $\vee$ Q'?
That plant isn't really in the seed!

Thus, according to Katz, Frege's notion is both too strong and too weak; it is just the wrong notion of analyticity.

> Frege writes as if fruitfulness were an absolute, a criterion that allows us to evaluate concepts once and for all on a single the-more-fruitful-the-better basis. But concepts are cognitive tools, and, as such, must be judged in relation to the demands of the tasks for which we intend to use them. a Swiss Army knife may be more "fruitful" than a scalpel, but the latter is better for performing surgery. Since the evaluation of concepts is task-relative, Frege has no business taking fruitfulness as a standard for making absolute judgments about the aequacy of semantic concepts (SRP 15).

Frege arrived at his notion of analyticity via a criticism of Kant's definition.
Similarly, we saw Quine's objection to any definition of analyticity: it relies on an unexplicated concept of containment, one which can not be justified in terms of logic.
Katz, rejecting Frege's logical basis of analyticity, explains analyticity in terms of the mereological structure of senses. pp 17-8.
Since analyticity is a concept from the theory of meaning, rather than reference, we can not conclude anything about truth (which is a term of the theory of reference) from a claim about the analyticity of a sentence.

'Cats are animals' can thus be analytic, and turn out to be false!
Like Donnellan's examples, it may be a case of reference under a false description.
Elsewhere, Katz calls this sentence "weakly necessary," which he takes to be a term in the theory of sense.

IV. Definition

Katz spends a bit of time on Fodor's argument against the possibility of definitions.
Fodor's claim is that a definition of p is supposed to provide necessary and sufficient conditions for being p.
The definition of 'dog' should provide necessary and sufficient conditions for being a dog.
But, says Fodor, such conditions, if they are not circular, are impossible to find.
Putnam's robot cat example buttresses Fodor's argument.
Even if we were to find actual conditions on being a dog, there are always possibilities that we could discover conditions we had not anticipated.
Putnam's aluminum/molybdenum case similarly supports Fodor's claim.

Our apprehension of the characteristics of aluminum does not allow us to discern it from molybdenum.
Everything I can perceive in aluminum is also a property of molybdenum.
The sense that I grasp of aluminum is insufficient to determine its referent.
But, on the new intensionalism, sense need not determine reference.

> If the sense of 'aluminum' does not have to determine its referent, Putnam can not go from the fact that a cluster of properties gets the referent of 'aluminum' wrong tot he conclusion that it gets its sense wrong... Fodor's argument is nothing but Putnam's with a different example. Just as Putnam argued that no definition of the term 'aluminum' gets its extension right because the best we can do in the case of 'aluminum' is to cite a cluster of properties that does not provide necessary and sufficient conditions for being aluminum, so Fodor argues that no0 definition of the term 'dog' gets its extension right because the best we can do to fill in the blank is to cite a cluster of properties like being an animal, being a mammal and being a carnivore, but such a cluster does not provide necessary and sufficient conditions for the application of 'dog'. Hence, Fodor begs the same question as Putnam (23)

Senses will provide some guidance for reference; they mediate reference.
But, they don't determine reference.
They decompose into a set of senses that are necessary for reference (p 24), but there may be other conditions relevant to determining reference.
The set of senses will, on the other hand, be necessary and sufficient for the full analysis of the sense of the term.

V. Frege's puzzles

Frege motivated the introduction of senses by considering three puzzles: identity, presupposition, and opaque contexts.
The first two can be handled by D.
The reason that 'Hesperus is Hesperus' has different cognitive content from 'Hesperus is Phosphorus' is that 'Hesperus' and 'Phosphorus' have different senses, despite their different references.

Note that using D to solve the problem of cognitive content entails that Katz will reject Mill/Kripke direct reference semantics for proper names.
The problem of empty reference, and the failure of presupposition, is similarly solved by D.
'Santa Claus' and 'Pegasus' have sense, even if they lack reference.
So, when people use those names in sentences, they can express propositions which contain the senses of those names, independently of their empty references.

Katz claims that the last of Frege's puzzles is really a problem for the theory of reference.
D can serve just as well as Frege's definition of sense; see Katz 198-9.
But, it is not a problem that the theory of sense must solve.

VI. Quinean indeterminacy

Katz's commitment to senses allows him to deny Quine's claim of indeterminacy of translation.
The sense properties of a term can ground the proper translations.
Fully bilingual speakers can ameliorate problems of indeterminacy.
Katz just denies the problems of inscrutability, including Quine's claim that inscrutability begins at home.
If Quine is right, then the presence of bilinguals will not solve the problems of inscrutability.
The referents of the bilingual's terms are themselves inscrutable.
So, even if the bilingual translates 'gavagai' as 'rabbit', if there is no fact of the matter among 'rabbit', 'undetached rabbit part', and 'temporal slice of a four-dimensional rabbit', the translation will remain indeterminate.

> Is it, as Quine believes, that there is no "objective matter to be right or wrong about" in translation, or is it, as intensionalists believe, that there is? That is the question... If we want to know whether there is evidence that can decide among co-extensional properties that figure in an alleged symmetry, we have no choice but to query bilingual informants about the ambiguity, antonymy, synonymy, redundancy, and other sense properties and relations of relevant examples. If Quine is right, then sufficient consistent evidence will not be forthcoming no matter how much investigating we do. If I am right, such evidence will be forthcoming (29)

In other words, Katz believes that the question of whether there is indeterminacy is empirical, and can be answered experimentally.