

October 17, 2018

Week 8 Notes  
The Metaphysics of Linguistic Expressions:  
Anaphora and Tokening-Recurrence Structures

Drilling down from the Kant-Frege-Wittgenstein order of explanation that takes *sentences*, their use, and the kind of content they express, as fundamental.

Somewhat more fundamentally, even: this approach comes from taking the broadly anthropological point of view, and looking at language as a practice, as something *done* (not, in general intentionally).

ISA semantics: Inference, Substitution, and Anaphora

Why anaphora?

Here are two claims to get us started in answering this question:

- i. Deixis presupposes anaphora.
- ii. What underlies Kripke-Putnam “causal historical” theories of proper name usage is anaphoric chains. The modal rigidity characteristic of proper names (and at the base of the modal metaphysics of *Naming and Necessity*) is an anaphoric phenomenon).

This week’s topic is the *metaphysics of linguistic expressions*. What *kind* of thing are they?

Really, the question is even broader.

It is about the kinds of things that can be bearers or vehicles of semantic significance.

People used to think (and some still do—e.g. Searle) that linguistic expressions are only *derivatively* semantically significant. Their semantic significance is parasitic on the mental or intentional states that have *original* intentionality or semantic significance. (Searle says: “intrinsic,” meaning he is not going to tell a story about it.)

I think we have come to see that we need to tell *one* story that encompasses the semantic significance of *both* linguistic expressions *and* intentional states.

At least in our case, these arise together.

To start with beliefs, one must start with (nonlinguistic) *animal* beliefs, and work one’s way up to language-use. Lewis in *Convention*, builds on Grice to try to do this. In a different way, so does Millikan.

But Grice needs *very sophisticated* prelinguistic beliefs and intentions: the intention to bring about a belief in another by means of the other’s recognition of that very intention (that is, attributing the intention to bring about the belief that way, and reasoning to acquiring the belief from that attributed intention).

It is *very* difficult to find an idiom (vocabulary) in which to specify the *contents* of the beliefs of nonlinguistic creatures. They cannot believe that the stock market is down or that Aristotle lived in Greece—or *anything* about the stock market or Aristotle. They can’t believe that the bank

President is home, or even that their master is home (not having the concepts “master” and “home”). Can they at least believe that *he* is *here*? As we’ll see, pronouns and indexicals presuppose a *lot* of other machinery. People try to finesse this issue by saying that animals only have “*de re* beliefs,” not “*de dicto* beliefs.” But this claim rests on a mass of confusions, principally the idea that one could have the one without having the other.

Here there is a general point we have learned about *foundationalist* enterprises: almost always there is an issue about the autonomy or independent intelligibility of the proposed foundation. The “foundation” turns out in some sense to presuppose the “superstructure” that is supposed to be understood or justified in terms of it. For classical epistemological foundationalism the problem was that what *can* serve as an *epistemic* foundation (empirical justification does *in some sense* trace back to the authority of noninferential observation reports) *cannot* serve as a *semantic* foundation: the contents of observation reports are in principle only graspable by someone who *also* grasps the contents of expressions that are applied as the results of *inference*. (It is a difficulty of this sort that, I would argue, besets Jackson-type semantic two-dimensionalism, paradigmatically in his Locke lectures *From Metaphysics to Ethics: A Defence of Conceptual Analysis*.)

Thesis: the content of *beliefs* is no less dependent (though differently) on the content of public *speech acts* than the content of those acts is dependent on the content of beliefs.

If you think there is no issue about the *kind* of thing linguistic expressions (or the bearers of semantic significance generally) can be, recall that Davidson, Lynne Rudder Baker, and McDowell all believe that intentional states are *vehicleless*, in the sense that there is no *nonintentional* specification of the state that is S’s belief that-p that is not equally a specification of the state that is S’s belief that-q. One would need to think *very* abstractly about substitution for such vehicleless sentential (because *propositionally* contentful) intentional states, if one were not in a position to appeal to their relations to linguistic expressions, which less problematically *do* stand in substitution-inferential relations to one another.

We saw last time that some of the linguistic bearers of semantic significance (complex predicates, substitution-frames, Frege’s “functions”) are not *parts* of sentential sign-designs, but something like patterns in them or equivalence classes of them.

In his great early essay “Quotation and Saying That,” McDowell treats expression *tokenings* as ordered triples of expression *types*, times, and places (and offers to throw in speakers if necessary). For his purposes that might have been OK. But are types really less problematic than tokenings? Can we make sense of one in advance of the other, and of their relations to one another?

Recap:

The big idea from last week was substitution. This is the Bolzano-Frege methodology of *noting invariance under substitution*, which is the basis of Frege's core concept of a function.

- i. It is this method that takes us from a notion of speech act, on the side of *pragmatics*, to the notion of content, on the side of semantics. For we look at content as what can be shared by different speech acts, indeed, by speech acts of different *kinds*: assertional, interrogative, imperative.... (Cf. Wittgensteinian semantic skepticism-nihilism w/res to this program, based on the idea of an unsurveyable motley of "uses" that would need to be accounted for. Charles Travis in our own times.)
- ii. And then it is this same methodology, applied again, at the level of *sentences*, that gives us the distinction between two kinds of *sentential content*: *free-standing* and *ingredient* (in Dummett's terminology). It is here that the key ideas of multivalued logic, designatedness and multivalues, were invoked as examples—and to point out that the apparatus could be used *analytically* as well as *synthetically*. The idea is to look at *embedded* uses of sentences, and to understand the *contribution* they make to the free-standing content of the compound sentences they occur in by appeal to *invariance under substitution*.
- iii. Finally, that methodology is applied a third time, to make semantic sense of *subsential* expressions. The "contribution" their occurrence makes to the (free-standing and ingredient) content of sentences they "occur in" is *also* understood by noting invariance (of free-standing and ingredient content of sentences they "occur in") under substitution.

With substitution showing up as such a central concept, both in semantics (in (ii) and (iii)) and in the relations between pragmatics and semantics (in (i)), it deserves more philosophical attention than it typically gets. Note that one needs to appeal to substitution *regardless* of whether one's top-level semantic notion is inference or representation. By the time Frege had conceptually mastered his notion of function, he was a representationalist. And one still needs to understand the ingredient content of representations: the "contribution their occurrence makes" to the representational content of representations they "occur in." The three levels of *MIE*'s "ISA" semantics are inference, substitution, and anaphora. But *both* the substitution and the anaphora level will, I claim, have to be appealed to by *any* semantics, *regardless* of whether the top-level notion is inference or representation.

Last time we looked more closely at substitution. We saw how the issues that made functions metaphysically puzzling for Frege—thinking of them as "objects with holes in them"—could be addressed by thinking of substitution-frames as *equivalence classes* of substituted-in expressions, or, in a way that can be cashed out by talk of such equivalence classes, as *patterns* in substituted-in expressions.

We asked two sorts of questions:

1. What patterns of substitution are *possible*? Here we wanted a botanization of all the ways substitution could, in principle work. The result was a table of four possible

combinations of Substitution-Structural Role (SSR) on the side of syntax, and Substitution-Inferential Significance (SIS) on the side of semantics. The actual pattern exhibited by singular terms and predicates is just one of those four.

2. What features of substitution are *necessary* (for it to do the work it is called on to do)? Is there anything special about the pattern of singular terms and predicates, in virtue of which things *must* work that way? Or, put differently: what are the expressive costs and benefits of each of the four different possible patterns. Are any of those costs prohibitive? Are any of the benefits so overwhelming that they are not to be given up?

Discursus (or detour): a discussion of “*how possible?*” questions and “*why necessary?*” (really: what of the actual is necessary, and why?) questions:

Both are broadly *transcendental* questions in Kant’s sense.

Officially for him, such questions ask about the *necessary* conditions of the *possibility* of something.

The difference between “how possible?” questions and “why necessary?” versions, I would say, is that the former must be motivated by some sort of *boggling at* the actual (and so presuppose a framework that makes it problematic that things are as they actually are), while the latter take it for granted and seek a distinctive kind of *understanding* of it.

Both we kantian transcendentalists and aristotelian humanists care how it actually is with us humans.

But we then ask—not the question McD, following LW, objects to: “How possible?”—but “Why necessary?”, that is, “Could it be different?”, saving some feature (paradigmatically: being a discursive practice, that is, one in which one can claim that things are thus-and-so).

We start from the actual: “This game is played.”

LW seems to want to forbid us from asking modal questions: how is this possible? (if it is actual, it is possible.). But also: “Which features of what is actual are necessary? Which could be different?”

So we are both starting from some *actuality*, of the sort that empirically minded philosophers of mind (for instance) are keen to get from the latest science. Both McD-LW and we transcendental philosophers (transcendentalists, as opposed to humanists, and both of us to empiricists) are concerned about *modal* questions about issues that go beyond what is actual (even: how it actually works—cf **what the trick is vs. how the trick is done**). McD-LW identify metaphysics with a question deeper than possibility: how is this actual phenomenon so much as possible? Their (plausible) view is that such questions are pointless, since they could only come from some *a priori* view about how things *must* be. And that theory, whatever it is, is what should be interrogated. I am asking: what is the *range* of possibility this phenomenon is selected from? What about how things actually work is *necessary*, and what just happens to be how we humans do it? I can focus the question somewhat by asking about “rational beings.” This is the kind of question Kant is addressing by considering the intelligibility of “intellectual intuition.” This is the “**vandalizing Neurath’s boat**” form of question.

This week we are going to look even harder and more closely at the notion of substitution.

This time we ask a transcendental question: what are the presuppositions of the methodology of *noting invariance under substitution*?

We will find two transcendental questions:

- 1) There are two actual forms of tokening-recurrence structures: cotypicality equivalence classes and anaphoric trees. Need a language exhibit both of these forms? Could there be any other such forms?
- 2) Within the anaphoric form of TRS: Generate a chart of 8 possible roles expressions can play in such structures. It is easy to find examples of 7 of them. Looking closely at the 8<sup>th</sup> yields a surprise!

For simplicity, I'll focus on singular terms throughout, though the points being made apply to expressions of all grammatical categories.

There are six big classes of singular terms:

Proper names

Definite descriptions

Indefinite descriptions

(though we needed Chastain to teach us to think of them as referring expressions)

Indexicals

Demonstratives

Anaphors

Some conceptual apparatus:

Type/token

Token/tokening.

Tokenings are dateable, unrepeatable, singular events.

To be the bearers of semantic significance, inferentially or, drilling down further, substitutionally, they must be linked with other (actual and possible) tokenings in larger structures.

These are not *coreference* structures. Those are defined by noting invariance (Quine's *salva veritate*) under substitution. And substitution presupposes a more primitive, tighter connection among tokenings. I'll call it "tokening *recurrence*."

The one we are most familiar with, and that first comes to mind, is *cotypicality* tokening-recurrence. This is when all the tokenings are of the same lexical-syntactic *type*. That is, as sign-designs (specified independently of their semantic content, if any) they all share some antecedently specifiable property. (Cf. the Cartesian move from traditional *resemblance* to more abstract *representation* in thinking about the relations between appearance and reality.)

Last time we asked about the notion of one expression "occurring in" another. We saw that, if the substitutional methodology is employed *analytically*, what equivalence classes of

subsentential expressions are intersubstitutable saving some feature of the sentences they “occur” in (the paradigm being Quine’s “*salva veritate*”) depends essentially on how we discern (primary, i.e. substitutionally relevant) *occurrences*. And we considered radical cases where “occurrence” is not a matter of one expression being a separable physical part of another. (Here one might think of quarks, which occur only in bundles of two or three, and which, if they *could, per impossibile*, be separated out would be *much* larger than the bundles they are “components” of—a possibility the metaphysical tradition *never* envisaged: that if you kept dividing matter you would get to things made up of parts *bigger* than the wholes they compose.)

This time we are going to interrogate the notion of expression, insofar as expressions’ involvement in *substitution* puts constraints on it.

As is often the case, looking at the use expressions that make some feature of discursive practice *explicit* is often the way to understand the *implicit* feature. Explicit substitution licenses are identity statements. They tell you that some expressions are intersubstitutable, saving some feature specific to that kind of identity claim (*salva veritate* for ordinary identity statements). But talk of “substituting one expression for another” requires that the *same* expression can occur in *multiple* contexts. This is a kind of *repeatability* of expressions. The question is: what kind of repeatability is it? Just to label it, I will call it “token(ing) *recurrence*.”

And here we can ask three questions, in parallel to those we asked last time:

- i. What kinds of repeatability do we actually see?
- ii. What other kinds of repeatability are in principle *possible* (saving the intelligibility of substitution)?
- iii. What features of those repeatability structures are *necessary*?

After we have asked what tokening recurrence structures *are*, we can see that

What we actually see are two structures:

1. Cotypicality recurrence structures, which are equivalence classes, hence reflexive, transitive, and *symmetric*.
2. Anaphoric chains (trees), which are reflexive, transitive, and *asymmetric*.

Reflexivity is vacuous recurrence, and not at issue.

So the question will come down to the necessity of *transitivity*.

I’ll argue that transitivity is a necessary feature of something else, which is *not* optional: *indefinite extensibility* of token-recurrence

[Now I want to use “structure” for the (more or less) concrete items: particular lexical types and anaphoric chains. But I am already using “structure” for the more abstract symmetric/asymmetric classification of “concrete” structures.

Terminological resolve: Call the particular lexical types and anaphoric chains “recurrence *structures*” and symmetric and asymmetric (transitive) kinds of them belong to “recurrence structure *forms*.” ]

So a key thought-experiment is to consider what it would be like if there were tokening-recurrence structure *forms* that were *not* indefinitely extensible.

The failure of extensibility could be of two kinds: either it is fixed in advance how many tokenings there can be in the structure of the inextensible form, or it is variable how many there can be, determined by some empirical fact or situation.

If the discursive practice in question *also* has indefinitely extensible tokening-recurrence forms, the inextensible ones will just function—in the most important ways—like anaphoric initiators, whose tokenings must be “picked up” anaphorically, by structures of forms that *are* indefinitely extensible.

So the hard counterfactual case is to ask about the intelligibility in principle of ADPs (that is what we are “preserving”) that have *only* tokening recurrence structures of *inextensible* forms.

The story should go in this order:

1. Recap [as above]
2. New, deeper question about presuppositions of substitution. Recurrence.
3. Paradigm is cotypicality form. How that works.
4. “Token-reflexives” don’t work that way.
5. Need for recurrence-structure forms specific to token-reflexives. Anaphora.
6. How anaphora works: Chastain on anaphoric initiators vs. anaphoric dependents.
7. Transcendental question: are these the only 2 tokening-recurrence forms that are possible?
8. A botanization of possibilities, along 3 dimensions: anaphoric initiator/dependent, lexically simple/complex, cotypical tokenings intersubstitutable/not.

For (4) and (5):

1. On the way to the idea of *forms* of token-recurrence structures.

A relationship tighter than identity.

It is in the means of expression, not in the thing.

But so is identity. Frege on sense and reference, to explain the difference between stuttering identities and significant identities.

Pa, a=b so Pb. Need “identity” of the two tokenings of “a” and the two tokenings of “b”. Care about this sense of “identity.” But *that* sense of ‘identity’ *cannot* be captured by *another* identity locution. Well, it can with  $/a/i = /a/j$ , in the sense in which that can be true. But then *another* sense of identity is involved, connecting tokenings of type “ $/a/i$ ” to one another.

And this point is not special to explicit identity locutions. For substitution to work, we need to be able to see the move from Pa to Pb and the move from Qa to Qb as in some sense the *same* move. (That is what van Fraassen and I rely on.) But then the tokenings of type <a> must be co-identifiable, and those of type <b> (not to mention the substitution-frames ‘P\_’ and ‘Q\_’).

And *that* identity cannot be made explicit with an identity locution, without presupposing identifications (recurrences) of just the same kind.

Q: What functional role is being performed by the tokenings (not tokens) being of the same type?

**Schröder's axiom:** "whenever I use a symbol, 'a', it is to be taken to have the same meaning in all its occurrences."

19<sup>th</sup> century mathematicians and philosophers concern with *rigor*.

This is usually thought of in *foundationalist*, epistemological terms of *certainty*.

But at base, it was an *expressive* concern. Or, better, it has an expressive presupposition and method. The first step in rigorization is an expressive, explicating one. For to be critical of an assumption, one must first be *explicitly* aware of it. Whatever assumptions one is making implicitly are to be made explicit. That way, if there is any criticism possible of them, it can be explicitly confronted. The aim of the rigorists was to make *everything* explicit. Frege is pretty clear on this.

This was motivated in part by surprises: for instance Weierstrass's Monster, a continuous function that is nowhere differentiable (consists entirely of points of inflection).

Schröder made explicit the assumption that if he uses a repeatable symbol 'a' multiple places in an argument, they "mean the same thing" in all occurrences. One is, after all, assuming that. So, he thought, one ought to *say* it, make that assumption explicit.

Belnap on Schröder's axiom. (Independence?)

It involved a confusion of levels.

That old modal logician Abraham Lincoln: If we all agree to call a tail a leg, how many legs would horses have? Four. Because you can't change how many legs horses have by talking differently. Two dimensional modal logic.

2. Introduce notation for talking about tokenings.  $\langle a_i \rangle$ . Types are  $\langle a \rangle$ .

Then can introduce an identity-like sign that can be flanked by *such* expressions.

It does *not* mean identity of the referents of the tokenings, but *recurrence* of the tokenings.

(As we will see, token-recurrence is intimately connected to modal rigidity.)

Next point: Not all expressions are such that tokenings of the same type are "intersubstitutable" saving, e.g., truth. These are Reichenbach's "token-reflexives."

1. Talk about the difference between indexicals and demonstratives: why demonstratives should not be thought of as a species of indexical.

2. Why we need expressions like this—"token reflexives," as per Reichenbach, the "token-credibility" structure of authority, as per Sellars.

Step 1: Need observation reports if any utterances are to have empirical content.

Step 2: What would a language have to look like that *did* have observation reports and did *not* have token-reflexive expressions?



3. Describe the variety of indexicals (and demonstratives), including computing the referents of expressions such as “your mother’s favorite color.” Start by asking how many kinds of indexicals (more particularly: sortal indexical expressions) there are: for person, time, place..., maybe world? But if one thinks there is a definite answer, one is thinking only of *primitive* indexical expressions. Compound ones can have any sortals at all.
4. People used to think you could get nonindexical expressions equivalent to indexical ones. Say how, and why that was plausible. Argument for the essential indexical. Rehearse it. Then explain it: the tradition had been thinking only of free-standing uses. If we include substitution for uses embedded in epistemic modals, we can see that nothing can substitute for indexicals. So free-standing vs. ingredient content, and substitutional methodology.
5. Could we trade demonstratives for indexicals or *vice versa*? I am tempted to think we could do without indexicals—at some cost—if we had sufficiently flexible demonstratives, but not *vice versa*. But one might push back—thinking particularly of “I”—by denying that we could get the relevant indexical *concepts* of self, place, time...if we didn’t have indexicals to anchor them. Might think of using a variant of Gareth Evans’s arguments about the need for both egocentric-space locators and public-space locators, and then argue that it can’t be demonstratives all the way down. I’m skeptical about how convincing that would be, in the end. But that seems to be the way one would need to go to push back against a demonstratives-only view.

Next point: token-reflexives come in two very different flavors. We’ll eventually see these as Chastain’s “anaphoric initiators” and “anaphoric dependents.” But for now: deixis-or-indexicals vs. anaphors. Deixis and anaphora.

6. Anaphoric expressions are *also* token-reflexive.
7. Q: Is it just a coincidence that there are these types? That is, indexicals, demonstratives, and anaphoric dependents? indexicals and demonstratives are anaphoric initiators. To introduce this line of thought, start with Chastain, as below. Then develop the botanization of types w/res to anaphora, and develop that line of thought to the discovery of anaphorically indirect def. descs., and the realization that “refers” and “represent” are among them (among the expressions used to form these).
8. What would a language look like that had deixis and indexicals, but no anaphora?

9. Want to ask a very general question: **what forms or structures tying tokenings together semantically are possible?** Equivalence classes are possible. That is what cotypical tokening recurrence shows. (Of course, cotypicality is not the only way equivalence classes can be defined, unless “types” are defined *very* broadly.) Equivalence classes are reflexive, symmetric, and transitive. But there can also be *asymmetric* structures. There cannot really be irreflexive ones. Asymmetric ones give us chains or trees, if they are transitive.
10. Could there be *intransitive* asymmetric structures? Would these just underwrite intransitive inferential structures? Some people think the latter are unintelligible. After all, they wouldn’t support *chains* of reasoning, as in mathematics. But if there can be intransitive implication relations (and there can), then could they be supported by intransitive tokening-recurrence structures?

Intransitive structures would make our capacity to continue referring to something too fragile, I think. That is, **transitivity is entailed by indefinite extensibility of tokening-recurrence structures: that one can always add more tokenings to the structure.**

But in the spirit of the dolphin thought-experiment, can ask whether the sort of *semantic fragility* that would result would make it *impossible* to make empirical claims. The capacity to refer to some things would be a scarce resource, in danger of running out. Perhaps some historical reference is actually like this. We can still refer to Julius Caesar’s maternal-maternal great-grandmother, and to her eldest brother (if any). But there might be many dead people for whom we simply have no resources for referring to individually any more—no current connection that could be traced to reach them. We can only refer to them collectively. That is in spite of the transitivity of anaphora (and so, proper names). If we can live with that sort of possibility of semantic gaps, what *in principle* precludes something much more serious and debilitating: pronoun-like expressions that “expire” after, say, 10 links, or names that cease to exist or to be semantically anchored after a variable but finite number of uses. (We could see “Leibniz”<sub>i</sub> counting down, hoping someone else doesn’t use “Leibniz”<sub>112</sub> (tokenings come with counters on them, and when the countdown reaches its limit, no more reference is possible using that recurrence structure.) because we know that is the last time we will be able to refer to him. Or it could be that the number of tokenings possible runs out, but one can’t tell in advance how many are possible or left (like human years of life left). But something happens to tell us that the tokening-recurrence structure has filled up and been used up. Some people might be despised as semantically profligate, for using up these scarce semantic resources (like polluters today). Some might take perverse pleasure in pointlessly expending these semantic resources. This would not be a big problem if ordinary anaphora were *also* possible, since we could let anaphora take over from the expired recurrences. Without that, creatures with limited semantic

recurrence resources could be forced into a *semantic dark age*, as various important semantic capacities flickered out. We don't appreciate the unlimited riches and resources that we possess and take for granted. Semantic profligacy.

There are really two issues being discussed here:

- i) Transitivity of token(ing) recurrence structures and
- ii) Open-endedness of TRSs. This latter means that there are always resources for producing *more* (further) tokenings belonging to any TRS. Transitivity *might* be a necessary condition for open-endedness. It is not sufficient. Tokening recurrence as a wasting (more than just scarce) resource, hence calling for an *semantic economics*. Semantic scarcity (triage, distributive justice, class structure). After all, there surely are semantic "makers vs. takers," (poets, not as the "legislators of mankind" [is that Shelley?]) but as the *manufacturers*. Semantic entrepreneurs, spying out opportunities for producing useful, scarce semantic commodities. For what is scarce might be tradeable. (One 'Leibniz' is worth ten 'Malabranche's.)

For analogy to the sort of transcendental speculation involved in imagining semantic scarcity of limited TRSs, might mention what I make of the structure of dolphin communicational practices, super-blindsight (also chicken-sexers), silicon asteroid creatures with odor-images....

- 11. Can get same effect as cotypicality of tokenings by tying tokenings together into chain structures.

(Somewhere: Talk about my projected analysis of metaphor in terms of chains of tokenings, by analogy to anaphora. This was followed up by Lynne Tirrell's dissertation.)

- 12.

## Part II: Semantic Vocabulary, introduced not by "...is true" but by "refers".

- 13. Part II is on the anaphoric account of the expressive role of semantic vocabulary. There key move is introducing anaphorically indirect definite descriptions. To introduce that, will have to tell the whole story about anaphoric initiators, anaphoric dependents, and the botanization of possible kinds of expressions I use there. (This is one of the punchlines: the conceptual analysis that leads to this botanization, followed by introducing expressions that fill an empty box, followed by recognizing those expressions as semantic vocabulary: "refers". This might be though analogous to the conceptual analysis leading to the botanization of kinds of possible subsentential structure in the WASTWATA argument.)

*Might* want to do that already when I introduce the idea of anaphora, in Part I.

### Anaphora Introduced: Chastain

Wherever I do the analysis that leads up to the botanization, I should start with a telling of the Chastain non-Russellian story about indefinite descriptions:

In his seminal article "Reference and Context" Charles Chastain suggests a novel approach to the understanding of singular term reference. The basic concept he employs is that of an *anaphoric chain*, a notion best approached at this point in terms of examples. Consider the discourse:

#A man in a brown suit approached me on the street yesterday and offered to buy my briefcase. When I declined to sell it, the man doubled his offer. Since he wanted the case so badly, I sold it to him.#

Two anaphoric chains are intertwined here, one corresponding to the buyer, and one to the briefcase:

A man in a brown suit ... the man ... he ... him  
and  
my briefcase ... it ... the case ... it.

The phenomenon may be indicated pre systematically by saying that the reference of later elements in such chains (here 'it' and 'the man') is secured only by the relations these elements stand in to the singular terms that initiate the chains in which they appear. This is the word-word (token-token) relation of *anaphoric reference* or *anaphoric dependence*. The presence of an anaphoric chain in a discourse signals that not all its singular terms have reference independently. Rather, some elements are related to their referents only in a derivative manner, in virtue of their anaphoric links to other expressions.

Examining the kinds of expressions that can initiate and continue such chains enables Chastain to make two important, related observations. The first concerns the significance of indefinite descriptions. Since Russell's discussions early in the century, indefinite descriptions have been treated as though they were not singular referring expressions at all, but rather to be understood by means of a quantificational paraphrase. The presence of an indefinite description often does signal existential quantification rather than singular reference as the proper semantic construal, but Chastain points out that the role of indefinite descriptions in anaphoric chains indicates that these expressions can also have a purely referential function. As in the example above, an indefinite description can initiate an anaphoric chain, which may then be continued by pronouns or definite descriptions. And it seems clear that, in the context in which it occurs above, 'a man' purports to refer to a unique individual, namely the man in the brown suit who approached me on the street yesterday and eventually purchased my briefcase.

This observation leads to Chastain's second point, which is that the reason that apparently nonquantificational uses of indefinite descriptions have not been thought of as straightforwardly referential is that they do not behave enough like proper names, the paradigm of singular terms. Except under deviant circumstances, if a proper name is used somewhere in a discourse invoking a particular referent, then other tokens of that same type which appear elsewhere in the discourse will be coreferential with it, in a sense that can be explained in terms of intersubstitution. In #Leibniz has been called a pluralist, and he has been called a monist, but no one has ever thought of that philosopher as a materialist.#

the sense is not altered if all the other elements of the anaphoric chain are replaced by the initiating expression to which they anaphorically refer and on which they anaphorically depend. An inelegant redundancy is the only cost of replacing 'he' and 'that philosopher' by 'Leibniz'. In the case of an anaphoric chain initiated by an indefinite description, on the other hand, such a substitution of terms alters the sense of the sentences in which the substituted terms appear. Consider:

#A Republican senator threatened to filibuster the Wilderness bill. The senator's staff persuaded him that this action was unwise, so he left the chamber.#

The anaphoric chain of interest here is

A Republican senator ... The senator ... him ... he.

The sense of the discourse is completely altered if the initiating expression is substituted for each of the terms that anaphorically depends on it:

#A Republican senator threatened to filibuster the Wilderness bill. A Republican senator's staff persuaded a Republican senator that this action was unwise, so a Republican senator left the chamber.#

In this passage the indefinite descriptions, although all of the same lexical type, do not purport to corefer. Each initiates a distinct anaphoric chain, and these chains may or may not involve the same individual. To continue such a chain requires either the use of a pronoun, which always continues an existing chain, or the use of a definite description, which can either initiate or continue a chain. The fact that a chain beginning 'a SORTAL ...' cannot be continued by repeating the initiating phrase, but can be continued with a definite description of the form 'the SORTAL ...', is called by linguists the requirement of a "definitization transformation." One may conclude from such special requirements either that indefinite descriptions cannot function as singular referring expressions or that not all singular referring expressions must behave like ideal proper names. Chastain's suggestion is that the second alternative is worth exploring.

#A man in a brown suit approached me on the street yesterday and offered to buy my briefcase. When I declined to sell it, the man doubled his offer. Since he wanted the case so badly, I sold it to him.#

Two anaphoric chains are intertwined here, one corresponding to the buyer, and one to the briefcase:

A man in a brown suit ... the man ... he ... him  
and

my briefcase ... it ... the case ... it.

The phenomenon may be indicated pre-systematically by saying that the reference of later elements in such chains (here 'it' and 'the man') is secured only by the relations these elements stand in to the singular terms that initiate the chains in which they appear. This is the word-word (token-token) relation of *anaphoric reference* or *anaphoric dependence*.

#### Chastain's first point, on indefinite descriptions:

Since Russell's discussions early in the century, indefinite descriptions have been treated as though they were not singular referring expressions at all, but rather to be understood by means of a quantificational paraphrase. The presence of an indefinite description often does signal existential quantification rather than singular reference as the proper semantic construal, but Chastain points out that the role of indefinite descriptions in anaphoric chains indicates that these expressions can also have a purely referential function. As in the example above, an indefinite description can initiate an anaphoric chain, which may then be continued by pronouns or definite descriptions. And it seems clear that, in the context in which it occurs above, 'a man' purports to refer to a unique individual, namely the man in the brown suit who approached me on the street yesterday and eventually purchased my briefcase.

#### Chastain's second point, on intersubstitution:

The reason that apparently nonquantificational uses of indefinite descriptions have not been thought of as straightforwardly referential is that they do not behave enough like proper names, the paradigm of singular terms. Except under deviant circumstances, if a proper name is used somewhere in a discourse invoking a particular referent, then other tokens of that same type which appear elsewhere in the discourse will be coreferential with it, in a sense that can be explained in terms of intersubstitution.

### 14. Botanization of Anaphoric Roles

Deploying these three independent functional distinctions-between anaphoric initiating tokens and dependent tokens, between co typically intersubstitutable and co typically nonintersubstitutable types, and between lexically complex and lexically simple types-yields eight roles that tokens can be thought of as playing in anaphoric chains.

So among anaphoric initiators that are invariant under cotypical intersubstitution there are those that are lexically simple, such as proper names like 'Leibniz' as used above, and those that are lexically complex, such as 'the first U.S. president'.

Among the cotypically nonintersubstitutable anaphoric initiators there are again the lexically simple such as 'this', and lexically complex indefinite descriptions, such as 'a Republican senator' in the example above.

Among the anaphoric dependents that are not cotypically intersubstitutable one can similarly distinguish lexically simple pronouns such as 'it' from lexically complex dependent uses of definite descriptions, such as 'the man' in the very first example.

Finally, among the anaphoric dependents that are invariant under cotypical intersubstitution one can distinguish some uses of lexically simple proper names, as in

#1 met a man I'll call 'Binkley'. Binkley is a mechanic.#

from lexically complex dependents, which will be called *indirect definite descriptions*. [MIE 310]

<b>Anaphoric Initiators</b>	<u>Lexically Simple</u>	<u>Lexically Complex</u>
<u>Cotypical Tokens</u> <u>Intersubstitutable</u>	Ideal (e.g. logically) Proper Names: 'Leibniz'	Russellian Definite Descriptions: 'the natural satellite of Earth', 'the even prime number'
<u>Cotypical Tokens</u> <u>NOT Intersubstitutable</u>	Basic Indexicals and Demonstratives: 'this', 'that', 'I', 'now', 'here'	Compound Indexicals and Demonstratives: 'my mother's favorite color', 'next Wednesday's lottery number' Indefinite Descriptions:

		'A Republican Senator'
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<b>Anaphoric Dependents</b>	<u>Lexically Simple</u>	<u>Lexically Complex</u>
<u>Cotypical Tokens</u> <u>Intersubstitutable</u>	Ideal Proper Names: 'Leibniz'	??? [Anaphorically Indirect (Russellian) Definite Descriptions: 'the poet referred to on p. 275 of <i>MIE</i> ' ]
<u>Cotypical Tokens</u> <u>NOT Intersubstitutable</u>	Basic Pronouns: 'he', 'she', 'it'	Improper, Dependent Definite Descriptions: 'the Republican Senator', 'the man'

15. When we get to 'true':

- a) Recall deontic scorekeeping account of truth condition on attributions of knowledge, JTB.
- b) Compare to pragmatic metavocabulary account of modality. Everyone can agree that what one is *doing* in calling something true ("describing it as true") is agreeing with it.

S: It is raining. S': That is true. ("True that.") S'': I agree.

- i. S' and S'' have *done* the same thing: They have both agreed.
- ii. But S and S' have *said* the same thing: that it is raining.

You can see that S' and S'' have *not* said the same thing if one looks at the consequences of application, what follows from their remarks, as codified in conditionals.

S' has claimed that Ss claim is true. If so, it follows that it is raining.

S'' has claimed that S'' agrees with S. If so, it does not follow from S''s agreement that it is in fact raining.

The challenge is to make sense of these two facts, (i) and (ii).

The achievement of the prosentential theory (when backed up by a general account of anaphora) is that it does explain both those facts.

In the modal case, following Sellars I claimed that what one is *doing* in making a modal claim is endorsing a pattern of inference, endorsing an implication with a range of subjunctive robustness. But what one is *saying* in making the modal claim is *not* that one is endorsing an inference. Again, the consequences of application, the counterfactuals involved, are different. I suggested that we do not much understand the relations between what is expressed (said) in a *pragmatic* metavocabulary (about what one is *doing* in assertorically using expressions of certain

kind) and what is expressed or said in a *semantic* metavocabulary (about what one is *saying* in assertorically using expressions of a certain kind).

In the case of *semantic* vocabulary, the proform-forming operator account gives a detailed account of how these are related.

What we would most like is a correspondingly satisfying story for *modal* vocabulary.

(And then for *normative* vocabulary.)

In “Supplementary Materials” for Week 8:

“Reference Explained Away”

“Expressive vs. Explanatory Deflationism about Truth”

Chastain: “Reference and Context”

Gover, Camp, and Belnap “A Prosentential Theory of Truth”