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A UNIFIED ACCOUNT OF ANAPHORA FOR BRANDOM'S INFERENTIALISM[*]

Zsófia Zvolenszky
zvolenszky@nyu.edu

In working out his inference-based semantics, Robert Brandom (1994) puts a great deal of emphasis on accounting for anaphoric chains, such as the two underlined sequences in (1):

(1) 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.

Brandom's account reflects a point of departure and aims that are unusual. On the one hand, taking inferential commitments as basic, he does not build up sentential meaning from subsentential building blocks but instead outlines the inferential roles of those subsentential components. On the other hand, his aims behind accounting for anaphora are twofold: not only does he want to account for anaphoric chains like those in (1), but he wants also to explain away uses of traditional semantic vocabulary such as 'refer' with the aid of anaphoric chains.

The initiators of anaphoric chains—their antecedents—vary; above we have just encountered but two of several kinds of antecedents: the indefinite 'A man in a brown suit', and the definite 'my briefcase', neither of which bind subsequent anaphora in their respective chains, and we will soon see examples of quantified antecedents and anaphora bound by their antecedents. Brandom considers these cases individually and employs a variety of strategies to account for them.

This short essay aims to amend and supplement Brandom's account of anaphora with the help of an idea—borrowed from Heim's familiarity theory of definiteness (1982)—that I think squares remarkably well with the tenets and aims of Brandom's inferentialism while also providing a unified account of anaphora. In order to keep the discussion as non-technical as possible, I will content myself with briefly sketching the account and outlining its potentials and challenges lying ahead.

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Paradigmatic examples of anaphora involve pronouns with a variety of antecedents present in the previous discourse. It will be helpful to distinguish the following three kinds of anaphora (underlined), examined in turn:

(2) *with a singular antecedent:*
    Gus is a bear. <u>He</u> lives in Central Park.
(3) *bound by a quantified antecedent:*
    Every bear ate a fish <u>it</u> caught.
(4) *unbound by a quantified antecedent*:
    Most bears are outside. <u>They</u> are busy playing.

A widespread and intuitive treatment of anaphors with singular antecedents appeals to coreference: 'he' in (2) inherits its reference from 'Gus', its antecedent (see e.g. Postal 1968). This way, an utterance of (2) amounts to (5):

(5) Gus is a polar bear. <u>Gus</u> lives in Central Park..

Brandom's proposal parallels this idea, without recourse to the notion of reference, of course. According to him, the anaphor *inherits* the substitutional commitments determining its significance from the substitutional commitments determining the significance of its antecedent (Brandom 1994, pp. 449–459).

It is equally common to regard anaphors bound by quantified antecedents as bound variables (Geach 1962; Quine 1960). With minimal formalization, using a restricted quantifier notation (Neale 1990), we can illustrate this for (3) as follows:

(6) $[\forall x: \text{bear } x](x \text{ ate a fish caught by } \underline{x})$

Again, Brandom proposes a parallel treatment for universal quantification: for each substitution instance for the quantifier, the anaphor inherits the substitutional commitments determining its significance from the substitutional commitments determining the significance of its antecedent (Brandom 1994, pp. 434–436).

Certain anaphors are known to resist the bound-variable treatment (Geach 1962; Evans 1977), (4) providing a good illustration: (4) does not merely say that most bears are outside *and* playing (as a bound-variable rendition would have it) but something stronger: that most bears are outside and *all of those bears* are playing. This observation already suggests a direction for handling anaphors syntactically unbound by their antecedents, including cross-sentential anaphors like 'they' in (4): these anaphors stand in for definite descriptions garnered from their antecedents (Evans 1977; Neale 1990). This way, (4) is equivalent to (7):

(7) Most bears are outside. <u>Those bears</u> are busy playing. or <u>The bears outside</u> are busy playing.

(It then takes a further step to analyze the underlined bits: crucially, the question arises whether or not we want to treat the definite description 'The bears outside' or 'those bears' as quantificational. We will shortly turn to this question.) Brandom follows this transformation strategy, suggesting that an unbound anaphor with a quantified antecedent

inherits a class of quantificational substitution instances from its antecedent (Brandom 1994, pp. 490–494).

Brandom thus offers three distinct methods for handling anaphora. There are several reasons for preferring a unified account instead. First, anaphoric phenomena are uniform enough—despite variations in antecedents—to warrant a general treatment. Second, from the perspective of his inferential-role semantics, Brandom regards recurrence as a crucial feature of anaphora, but can apply this in the case of singular-antecedent anaphora only. (Brandom 1994, pp. 449–459). Three further, related issues arise in connection with anaphoric chains intended to explain away reference: the mechanism Brandom proposes (pp. 305–322) works on the model of singular-antecedent anaphora only. But he wants to include here anaphora with indefinite antecedents like 'a man in a brown suit' and definite description antecedents like 'my briefcase' (as we witnessed in (1)), whose assimilation to singular antecedents is not at all obvious; a case could be made for treating them as quantified antecedents instead. Further, expressions other than pronouns exhibit anaphoric behavior: for example, 'the man' and 'the case' in (1) are links within their anaphoric chains in the same way as pronouns are. It would, be odd then to have like treatment for pronouns *and definite descriptions* with similar antecedents, while handling other pronouns differently. These considerations indicate that a unified account of anaphora would be more focused and elegant for Brandom's purposes.

A unified alternative along the lines of the treatment of unbound anaphora readily suggests itself: anaphors can generally stand in for definite descriptions (or complex that-phrases like 'those bears') along the lines of (7) (repeated below), yielding (8) and (9) respectively for (2) and (3):

(7) *unbound by a quantified antecedent:*
Most bears are outside. THOSE BEARS are busy playing. or THE BEARS OUTSIDE are busy playing.

(8) *with a singular antecedent:*
Gus is a bear. THAT THING THAT IS GUS lives in Central Park. or THE THING THAT IS GUS lives in Central Park.

(9) *bound by a quantified antecedent:*
[Every x: bear x](x ate a fish caught by THAT BEAR) or [Every x: bear x](x ate a fish caught by THE BEAR)

For the moment at least, let us regard the expressions in small caps as singular-term-like rather than quantificational (we will soon see how this bears out). In the case of (9), THAT BEAR' and 'THE BEAR' are intended to capture the effects of variable binding. Working out the details of this constitutes a complex project I hope to undertake elsewhere.

In an admittedly quite long-winded and contrived way, (8) applies to proper names a model basic and familiar in the context of anaphoric chains with antecedents that are indefinite or definite descriptions. We have already witnessed this phenomenon in (1); (10) and (11) further motivate the idea that definite descriptions and complex that-phrases can stand in for anaphoric pronouns without change in meaning:

(10) A bear lives in Central Park.   He is called Gus.
                                         THAT BEAR is called Gus.
                                         THE BEAR is called Gus.

(11) (pointing) The bear over there is male.   He is called Gus.

THAT BEAR is called Gus.
THE BEAR is called Gus.

The idea of applying the very same mold to proper names (inspired by a conversation with Stephen Neale) squares well with Brandom's discussion of anaphoric chains and will fit even better once we consider a particular alternative for cashing out the definite descriptions and complex that-phrases in small caps. To this alternative, the familiarity theory of definiteness, we now turn.

In her dissertation, Heim (1982) made famous the idea that definites (like the expressions in small caps) refer to what is already familiar within a conversation. This contrasts with indefinites (like 'a bear' in (10)), which introduce new referents into the conversation. To keep track of discourse referents, Heim proposes a method of managing file cards, which are updated as the conversation progresses. While an indefinite article instructs us to introduce a new file card, a definite article by contrast calls for updating certain cards already in the file. For example, on encountering 'THE BEARS OUTSIDE are busy playing' in (7), we update already existing cards marked 'is a bear' and 'is outside' with the information 'is busy playing'. The semantic contribution of a definite article is the file-changing instruction 'go to an old file (or files)'. In the case of (8), we should go to an already existing 'Gus'-card and update it with the information 'lives in Central Park'. In the case of (9), roughly, we go to a previously introduced card for arbitrary bears to update it with the information that the bear in question caught and ate a fish.

This framework of keeping files for discourse referents is a natural extension of the score-keeping of commitments Brandom delineates (1994, pp. 141–198). The file framework also underpins a unified account of anaphora that generalizes Brandom's account of anaphora unbound by their antecedents to all anaphors: across the board, an anaphor inherits a class of quantificational substitution instances from its antecedent. Also, Brandom's discussion of anaphoric recurrence structures (*ibid.* pp. 449–459) can now apply to anaphors of all sorts, not just those with singular antecedents.

The bulk of the work is still ahead, I will conclude with a to-do list. We need an account of when we have singular versus plural anaphoric definite descriptions and how they are different; this is a contrast we see between, for example, (7) and (8). This, together with a treatment of arbitrary file cards, will be crucial for capturing the effects of variable binding in the case of anaphora bound by their antecedent, as in (9). We also need to delineate carefully what descriptive material makes it into the anaphoric descriptions. We can already foretell the following challenge: in the case of an antecedent like 'most bears' in (7), we wanted the anaphoric description to be 'the bears outside', rather than just 'the bears'. Indeed, this is natural for most quantified antecedents like 'few bears', 'all bears', 'some bears'. by contrast, 'no bears' resists this treatment, for (12) cannot be rendered as (13):

(12) No bears are outside. <u>They</u> are asleep.
(13) No bears are outside. ?*THE BEARS OUTSIDE are asleep.

We need to examine how we might instead cash out 'THE BEARS' or possibly 'THOSE BEARS' to work for quantified antecedents generally. In addition, we need to capture the restricted availability of certain anaphora—why, for example, the continuation in (14) is not good.

(14) Every bear is outside. *It is about to have dinner.

We also need to describe mechanisms for accommodation—along the lines of Lewis (1979)—that would allow the use of the definite 'my briefcase' in (1) even if the briefcase had not previously been salient in the conversation or the environment and had not therefore been allocated a file card.

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