

Identificational sentences

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Abstract This paper gives a novel analysis of identificational sentences such as *This is Mary*, *That is a beautiful woman*, or *This looks like Mary* based on the notion of a trope. On that analysis, bare demonstratives in the subject position of an identificational sentence involve reference to a trope as the direct object of perception and the sentence itself states the identification of the bearer of the trope. The analysis also accounts for the semantics of certain specificational sentences such as *What John saw was Mary*, as well as apparent statements of relative identity such as *This is the same lump of clay, but not the same statue as that*.

Keywords Identificational sentences · Specificational sentences · Tropes · Demonstratives · Perception · Direct perception · Proper names · Relative identity

In this paper I will give a semantic analysis of what Higgins (1973) calls *identificational sentences*, sentences such as (1a) and (1b):

- (1) a. This is Mary.
b. That is a beautiful woman.

Identificational sentences are copula sentences with *this*, *that*, or *it* in subject position, pronouns that will be neutral regardless of the gender of the individual introduced by the postcopula NP. *This* and *that* in their function in identificational sentences typically relate to the presentation of an individual in the perceptual, nonlinguistic context, and thus can be called *presentational pronouns*.

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On the analysis I propose, presentational pronouns involve reference to a perceived feature or trope (a particularized property)—entities that act as the objects of direct perception, as a number of philosophers have argued. An identificational sentence then does not state the identity of the referents of two referential terms, but rather the identity of the entity introduced by the postcopula NP with the bearer of the trope that the presentational pronoun makes reference to. Thus, a sentence such as (1a) or (1b) states that the entity introduced by the postcopula NP is the bearer of the trope that the pronoun in subject position makes reference to.

This analysis applies also to certain types of *specificational sentences*, namely of the type of (2):

(2) What John saw was Mary.

Such specificational sentences have as subject a free relative clause with a perception verb and an *exceptionally neutral relative pronoun*. According to the analysis proposed, (2) states that the direct object of John's visual experience, a trope, has as its bearer the object referred to by the postcopula NP, Mary.

Identificational sentences are not generally considered special cases of specificational sentences. However, I will show that there is a close connection between identificational sentences and certain types of specificational sentences, including the one exemplified by (2)—a connection that in fact demands a unified analysis. The proposed analysis of identificational and (the relevant type of) specificational sentences is formally close to Romero's (2005) intensional account of the subject of specificational sentences and may be considered a version of an intensional question-answer analysis of specificational sentences.

The proposed analysis of identificational sentences also has applications to certain types of philosophically significant sentences, namely to apparent statements of sortal-relative identity. Such statements in their most natural form in fact involve presentational pronouns, as in (3)—looking, let's say, at two copies of a book:

(3) This is the same book, but not the same copy as that.

Example (3) appears to be a linguistic manifestation of Geach's notion of *relative identity*, which is a philosophically rather controversial notion. But as a matter of fact, (3) is an identificational sentence, and given the analysis of identificational sentences developed in this paper, statements such as (3) turn out to be statements about the bearers of tropes, not statements of sortal-relative identity. Thus analysis of (3) will not involve the problematic notion of relative identity.

I will first give a general characterization of identificational sentences and propose a semantic analysis of such sentences. I then point out a number of connections between identificational sentences and certain types of specificational sentences and show how the analysis can be carried over to the latter. Finally, I will apply the analysis to apparent statements of relative identity.

1 Linguistic properties of presentational pronouns

1.1 The characterization of presentational pronouns

Presentational pronouns are pronouns in the particular context of the subject position of an identificational sentence. One crucial feature of presentational pronouns is their *presentational function*: the presentational pronouns *this* and *that* presuppose a perceptual presentation of an individual that they appear to pick out. I will later come to the varieties of presentations that *this* may include. Discourse-related *it*, as in (4), can also be considered a presentational pronoun, though it relates to a discourse-related rather than a perceptual presentation of an individual:

- (4) a. Someone entered. It was the same man as had entered yesterday.
b. Someone came to see me yesterday. It was the same man as that.
(looking at a photograph)

Presentational pronouns often are identical or homophonous with ordinary simple neutral demonstrative or anaphoric pronouns. However, unlike the latter, presentational pronouns are neutral regardless of the gender of the individual that they appear to pick out.

Many languages besides English have presentational pronouns. In French, for example, *ce* can be used as a presentational pronoun, as in (5a), as can *das* or demonstrative *das da* in German, as in (5b):

- (5) a. C'était une femme / Marie.
this (neut.) was a woman / Mary
b. Das / Das da ist eine Frau / Maria.
this (neut.) is a woman / Mary

French *ce* is restricted to the subject position of identificational or specificational sentences and does not occur as an ordinary neutral demonstrative pronoun. This shows that presentational pronouns cannot generally be analysed as ordinary neutral pronouns reinterpreted in a particular syntactic context. German *das*, by contrast, can act as an ordinary neutral demonstrative (*Ich habe das gegessen* 'I have eaten that'). French *ce* and German *das* fulfil all the criteria for presentational pronouns discussed in the following sections.

1.2 Presentational pronouns are not referential

Presentational pronouns are not ordinary referential NPs, and therefore must be sharply distinguished from the ordinary neutral demonstratives *this* and *that*, and the ordinary anaphor *it*. Unlike ordinary neutral pronouns, presentational pronouns are not referential. Several criteria show the nonreferential status of *this* and *that*.

1.2.1 Coordination

Presentational pronouns cannot be coordinated with ordinary referential NPs. The examples below are impossible if *that* is to stand for a person¹:

- (6) a. * Mary and that are a beautiful couple.
 b. * Mary and that are the two people I admire most.
 c. * Bill or that was the chairman of the session.
 d. * Bill and that will walk home.

Neutral demonstrative *this* and *that*, by contrast, are not barred from coordination with ordinary NPs:

- (7) a. I bought this and the cake. (pointing at a melon)
 b. Do you want this or the cake? (pointing at a melon)
 c. You have to decide between this and me. (pointing at a pack of cigarettes)

1.2.2 Incompatibility with ordinary variables

Presentational pronouns are incompatible with ordinary variables—more precisely, with variables as introduced by relative clauses or quantificational NPs:

- (8) * That, whom I first did not recognize, was John.
 (9) a. * Everyone except that came to the party.
 b. * Everyone came, even that.

The neutral demonstratives *this* and *that*, by contrast, are compatible with ordinary variables, just like other ordinary referential terms:

- (10) a. Everything except this is poisoned. (pointing at a cake)
 b. Everything is poisoned even that. (pointing at a cake)

An ordinary variable, though, may occupy the subject position of a specificational sentence whose subject is a presentational pronoun:

- (11) a. Whoever *that* was *e* should be identified quickly.
 b. Whatever person *that* was *e* should be identified quickly.
 c. Who was that *e*?
 d. * What was that *e*?

¹ In fact, as an anonymous referee has pointed out, presentational pronouns seem to resist coordination entirely. Thus the sentences below are hardly possible:

- (i) a. ??? This and this are John and Mary.
 b. ??? This and that are John and Mary.

A constraint against coordination in general would only reinforce the point that presentational pronouns are not ordinary referential NPs.

This is expected: the postcopula position of an identificational sentence is, as we will see, a referential position, requiring the expression in postcopula position to be referential in the sense of being an individual-denoting or individual-introducing expression. I will turn to his point shortly.

1.2.3 *The interpretation of tag questions*

The understanding of tag questions in identificational sentences, as in (12a), is another indication for the non-referentiality of presentational pronouns²:

- (12) a. This is Mary, isn't it?
 b. This is heavy, isn't it?

The tag question in (12a) puts into question whether *this* is linked to Mary, which means that (12a) does not presuppose a particular referent of *this*. By contrast, the tag question in (12b), which is an ordinary subject-predicate sentence, can only put into question the holding of the property of being heavy of the referent of *this*; it cannot put into question the referent that *this* may have.

1.2.4 *The interpretation of modals*

The interpretation of modals as well shows the nonreferential status of presentational pronouns. Presentational pronouns appear to allow only for an epistemic interpretation of a modal, as seen in the contrast between (13a) and (13b) and between (14a) and (14b):

- (13) a. John must be a student.
 b. This must be a student.
- (14) a. Mary could be a gymnast.
 b. This could be a gymnast.

Whereas *must* in (13a) allows for a deontic interpretation of the modal, (13b) allows only for an epistemic interpretation; and whereas *could* in (14a) can express physical possibility, *could* in (14b) can express only epistemic possibility.

Such constraints on the interpretation of modals would be entirely unexpected if the presentational pronoun was an ordinary referential term. We will later see how these constraints are explained straightforwardly on a particular nonreferential analysis of presentational pronouns. As stated, however, the restriction is not framed entirely correctly: as will turn out, it is actually a restriction on the scope of the modal.

² This has been noted by Higgins (1973, p. 265, fn. 8), who, however, leaves it a puzzle—for his view that the subject of identificational sentences is 'referential'.

1.3 A previous nonreferential analysis of presentational pronouns

There is one particular proposal in the literature that treats presentational pronouns as nonreferential. This is Mikkelsen's (2004) account, according to which presentational pronouns are propredicative pronouns that stand for a property given by the context.^{3,4}

The presentational pronoun *that* does indeed have a use on which it is anaphoric to the description of a property given by the preceding context. Thus, *that* acts as a propredicative anaphor in the second conjunct below (Mikkelsen 2004):

(15) a. They say that Mary is beautiful, and in fact she is that.

But there are several difficulties for Mikkelsen's account as a general account of presentational pronouns.

First of all, it could apply only to anaphoric uses of presentational pronouns, as in (15b), and not deictic ones.

(15) b. Someone entered the room. That was Mary.

In fact, *that* has a deictic use only as a presentational pronoun, not as a propredicative pronoun, as indicated by the impossibility of (15c):

(15) c. ??? Mary is that. (pointing at another beautiful woman)

This undermines the motivation of any account built on the propredicative use of *that*.

Second, Mikkelsen's account would not do justice to the fact that in general the subject of identificational sentences must in some way pick out a unique individual. Thus (16b) as a continuation of (16a) is impossible⁵:

(16) a. John is really happy.

b. * That / This / It isn't, however, Mary.

Note that the intuition that a presentational pronoun 'picks out' a unique individual does not mean that it refers to such an individual, a point that will be elaborated later.

³ Mikkelsen (2004) takes identificational sentences to be specificational sentences and adopts the *Inverted-Predicate Theory* of specificational sentences (Williams 1983; Partee 1986; Moro 1997; den Dikken 2006). On the Inverted-Predicate Theory, the subject of specificational sentences is taken to be the predicate of the sentence, predicated of the denotation of the postcopula expression.

⁴ For Mikkelsen (2004), identificational sentences are truncated clefts. But see Birner et al. (2007) for the view that they are not.

⁵ The same criticism applies to the inverted predicate theory of specificational sentences (not identificational sentences) (fn. 1). It has been noted that the subject position of specificational sentences is generally restricted to descriptions—predicates describing, generally, a unique individual (Heycock and Kroch 1999):

(i) a. * Honest is John.

b. The best player is John.

A third problem for Mikkelsen's account is that the class of pro-predicative pronouns does not generally coincide with the class of pronouns that can occur as subjects of specificational sentences. In English only *that*, but not *this*, has a pro-predicative use. Moreover, in French, the presentational pronoun *ce* cannot act as a pro-predicative pronoun; only the pronoun *le* can:

- (17) a. *Quelqu'un est venu. C' / * Il est Jean.*
 'Someone has come. It is John.'
 b. *Jean est sage. Marie l'est / * c'est aussi.*
 'John is wise. Mary is it too.'

In English as well the discourse-related presentational pronoun *it* can hardly act as a pro-predicative pronoun⁶:

- (18) * *They say that Mary is beautiful, and in fact she is it.*

Conversely, some languages have pro-predicative pronouns or quantifiers that cannot act as presentational pronouns. In English these are expressions with the morpheme *thing*:

- (19) a. * *The only thing I wanted a man to be is John.* (Heycock and Kroch 1999)
 b. * *Something is John.*

Thus, presentational pronouns cannot be property anaphora taking the position of predicates. They have a semantic function of their own, a function that allows them to relate to a description as well as a perceptual presentation of a unique individual in the context.

1.4 Identificational sentences are not predicational

There are also constraints on the VP in identificational sentences. They show that identificational sentences cannot be ordinary predicational sentences.⁷

⁶ Mikkelsen (2004) gives the following examples as evidence that presentational pronouns can act as predicate anaphora:

- (i) a. *John is considerate. That / It is a rare thing to be.*
 b. *John is president of the club. It is a good position.*

The second sentences in (ia, b) are sentences in which *it* and *that* take 'nominalized' properties as semantic values—the denotations of infinitival or gerundive clauses, such as *to be considerate* or *being president*. Note that *it* and *that* in (ia,b) do not appear in the position of predicates, and thus (ia) and (ib) do not lend support to Mikkelsen's (2004) version of the inverted-predicate theory of identificational sentences.

⁷ Heller and Wolter (2008) argue that identificational sentences are in fact predicational. Their account allows only sortal predicates, though, for presentational pronouns as subjects. This is because presentational pronouns, on their account, do not stand for ordinary entities but for 'sorts'—functions from possible worlds to entities that count as identical relative to a sortal. This does not explain the impossibility of (21a–c), nor does it account for the inability of identificational sentences acting as small clauses. Heller and Wolter's account, moreover, is based on the problematic notion of relative identity. See Sect. 5.

1.4.1 Choice of the main verb

Presentational pronouns are limited in their occurrence to the subject position of the verb *be*. Thus, sentences like (20a) or (20b), with *that* referring to a person, are never acceptable:

- (20) a. * I saw that. (looking at a man)
 b. * I was looking for that.

By contrast, neutral demonstrative *this* and *that* are not subject to this constraint.

In fact, copula verbs other than *be* such as *become*, *remain*, or *seem* are also excluded from identificational sentences:

- (21) a. * This remained a beautiful woman.
 b. * This will never become a very good teacher.
 c. * This seems a very good teacher.

This also indicates that the *be* in identificational sentences is not the *be* of predication.

1.4.2 Small clauses

The nonreferential status of presentational pronouns is also apparent from the fact that presentational pronouns cannot occur as subjects of small clauses:

- (22) a. I consider John a very good teacher.
 b. * I consider this / that / it a very good teacher.

Small clauses constitute a standard test for subject-predicate sentences, and evidently identificational sentences are not among them.

1.5 The 'referential' status of the postcopula NP

Presentational pronouns distinguish themselves further from ordinary referential NPs in that they impose particular restrictions on the predicate.⁸ The observation, in first approximation, is that presentational pronouns require either a sortal or a proper name in postcopular position:

- (23) a. That is a beautiful woman.
 b. * That is beautiful. (looking at a woman)
 c. That woman is beautiful.

⁸ The restriction has already been discussed for English *this* and *that* by Higgins (1973). See also more recently Mikkelsen (2004) and Heller and Wolter (2008). The restriction holds in the same way for French *ce* (Beysade and Sorin 2005 and references therein) and for German *das*.

- (24) a. A woman entered. It was a beautiful woman.
 b. A woman entered. * It was beautiful.
 c. A woman entered. The woman was beautiful.
- (25) a. That / This is Mary.
 b. A woman entered. It was Mary.

Neutral ‘ordinary’ demonstrative *this* and *that* and discourse-related *it* are not subject to that constraint:

- (26) a. That is red. (looking at a surface)
 b. John discovered something in the bag. It was red.

The view that the restriction consists in requiring a sortal in postcopula position can be found, somewhat implicitly, in the philosophical literature. Thus, both Dummett (1973) and Lowe (2007) discuss sentences with presentational pronouns within a more general discussion of the role of sortal concepts for reference. Both Dummett and Lowe take the presentational pronoun, which lacks sortal content, to stand for something indeterminate—a ‘mere chunk of an amorphous reality’, as Dummett calls it. Reference to a real object as part of a singular proposition for both philosophers requires the use of a sortal, which gives the identity conditions for the object. If a sortal-free presentational pronoun is used in the subject position of an identificational sentence, then a fully individuated object can still be introduced as part of the proposition if a sortal expression is subsequently used in the postcopula position, resolving the indeterminacy of the referent of the pronoun. That is, the postcopula expression, in virtue of its associated sortal concept, would help decide on an object to be part of the proposition expressed.

Nouns, according to standard views, are sortals, and thus indefinite full noun phrases generally have sortal content, which makes them suited for the postcopula position of identificational sentences. However, that proper names as well have sortal content is not a generally accepted view and goes against common direct-reference theories of proper names. But the view has sometimes been held, notably by Geach (1957) and more recently by Lowe (2007). (On that view, the name *John* would have the sortal content ‘person’.)

There are problems, however, for such a view on the constraint on the postcopula expression in identificational sentences. First, there are NPs that have both a predicative use (without a determiner) and an individual-introducing or referential use (with a determiner). An example is *mayor of Cambridge* as opposed to *the mayor of Cambridge*. Only the latter is acceptable in the postcopula position of identificational sentences, as has been noted already by Higgins (1973, p. 222)⁹:

⁹ In many languages, NPs for professions or ‘roles’ occur with a determiner on the referential use (including in the postcopula position of identificational sentences) and without a determiner on the predicative use (in which form they are thus barred from the postcopula position of predicative sentences). This is also the case in French:

- (27) a. * That is mayor of Cambridge.
 b. That is the mayor of Cambridge.

But there should be no difference in sortal content between the two sorts of NPs.

Second, presentational pronouns allow for expressions in the postcopula position that do not have sortal content. For example, in German the postcopula position of identificational sentences may contain pronouns whose gender depends entirely on agreement, rather than being tied to a sortal concept:

- (28) Das Mädchen, das muss es sein.
 the girl (neut.), that must *it* (neut.) be

Third, the generalization the view is based on, namely that terms without sortal content require a sortal in postcopula position, does not seem right. There are also count noun phrases that fail to have a sortal content, for example *the cause of John's distress* or *the target of John's attention*. Such noun phrases are not subject to a restriction to sortal predicates:

- (29) a. The cause of his distress (his youngest child) could finally be identified.
 b. The target of his attention (namely Mary) is very beautiful.

Fourth, the same constraint on the postcopula NP being a sortal obtains when the presentational pronoun is anaphoric to a proper name or full sortal NP in topic position, as is possible in German or French:

- (30) a. Diese Frau, das war meine Tante / * das war schön.
 'This woman, that was my aunt / that was beautiful.'
 b. Cette femme, c'était ma tante / * c'était belle.
 'This woman, that was my aunt / that was beautiful.'

The use of *das* 'that' in (30a) leaves no doubt as to the identity conditions of the object at play. But the constraint on the postcopula expression holds nonetheless, as

Footnote 9 continued

- (i) a. C'est un danseur.
 this is a dancer
 b. * C'est danseur.
 this is dancer

See Beyssade and Sorin (2005) and references therein for the French data.

In English, some indefinite NPs describing professions or 'roles' for professions appear ambiguous between predicative and referential NPs. In (iia) *a baker* is predicative and the sentence is marked as a subject-predicate sentence by *he* in the tag; whereas in (iib) *a baker* is referential and the sentence is marked as a specificational sentence by *it* in the tag (see Sect. 3):

- (ii) a. The winner is a baker, isn't he?
 b. The winner is a baker, isn't it?

By contrast, NPs with *mayor* as head display no such ambiguity:

- (iii) a. The winner is the mayor of Santa Cruz, isn't it?
 b. * The winner is mayor of Santa Cruz, isn't it? (Mikkelsen 2004)

illustrated by the unacceptability of (30b). Thus, neither the restriction as stated nor the explanation are adequate.¹⁰

The correct generalization concerning the restriction on predicates with presentational pronouns should in fact not be made in terms of the sortal-nonsortal distinction, but in terms of the predicative-referential distinction, in a certain sense of ‘referential’. Presentational pronouns require an NP in postcopula position that takes individuals as semantic values, by either referring to them (proper name) or by introducing an individual variable (indefinite). In linguistic semantics, NPs in both functions are considered of type $\langle e \rangle$: NPs whose semantic values are individuals and which in that sense are ‘referential’.

Indefinites in postcopula position are standardly taken to act as predicates rather than referential or quantificational NPs. There is evidence, however, that indefinites in the postcopula position of identificational sentences are not predicative, and that is that they can be coordinated with proper names in that position:

(31) This was John or one of his friends.

(32) Who could have painted that painting? This / It must have been Rembrandt or a student of Rembrandt.

There are two traditions in semantics according to which indefinite NPs do not have the status of predicates or quantifiers, but rather are of the same type as referential NPs. Either of those would be suited for accounting for indefinite NPs in the postcopula position of identificational sentences.

One tradition is that of Discourse Representation Theory (Kamp 1981) and certain versions of dynamic semantics (Heim 1982). According to that view, roughly, indefinites have the semantic function of introducing variables into the logical form of a sentence: variables that later in the construction of the logical form will be bound by an independently introduced existential (or other) quantifier. As variable-introducing expressions, indefinites will thus be of the semantic type $\langle e \rangle$, the type of referential NPs.

A second tradition makes use of choice functions for the semantic analysis of indefinites—that is, functions that map a set onto some element of that set (Reinhart 1997; Winter 1997; Kratzer 1998):

(33) A function f is a *choice function* (CF(f)) iff f maps any nonempty set onto an element of that set.

Given the latter account, (34a) is analysed as in (34b):

¹⁰ Note also that full NPs with sortal content impose the same constraint when the sentence is marked as a specificational sentence by a tag question, as in the following examples from Mikkelsen (2004):

- (i) a. * The winner is blond, isn't it?
b. The winner is a blonde, isn't it?
- (ii) a. * The winner is behind the screen, isn't it?
b. The winner is you, isn't it?

- (34) a. Mary met a man.
 b. $\exists f(\text{CF}(f) \ \& \ \text{meet}(\text{Mary}, f([\textit{man}])))$

Within the choice-function analysis, the semantic contribution of an indefinite in the postcopula position of an identificational sentence will be as indicated below:

- (34) c. This is a well-known man.
 d. $\exists f(\text{CF}(f) \ \& \ \textit{this is f}([\textit{well-known man}])))$

I will later make use of the second approach, but the treatment of indefinites in identificational sentences will not play much of a role in the rest of this paper.¹¹

2 A semantic analysis of identificational sentences

2.1 Reference to tropes with presentational pronouns

We have seen that presentational *this* and *that* are not referential terms, referring to the object that the postcopula NP stands for. Yet in some way they stand for a contextually given perceptual presentation—a feature or a collection of features given by the nonlinguistic context. Since presentational pronouns are not ordinary referential terms that could refer to such a presentation or feature, I will distinguish two sorts of denotations for presentational pronouns: a referential denotation and a presentational denotation. The former accounts for the way presentational pronouns make reference to a contextually given feature or collection of features; the latter constitutes the contribution of the presentational pronoun to the composition of the meaning of the sentence.

¹¹ There is a common objection to treating an indefinite in the predicate position of an ordinary subject-predicate sentence as quantificational. This is that it would predict the possibility of wide scope over an existential quantifier representing the indefinite over negation, which is impossible. Thus (ia) cannot have the interpretation given in (ib), unlike (iia), which allows for the interpretation in (iib):

- (i) a. John is not a well-known man.
 b. There is a well-known man x such that John is not x .
 (ii) a. Mary did not meet a well-known man.
 b. There is a well-known man x such that Mary did not meet x .

For identificational sentences a wide-scope reading seems equally unavailable:

- (iii) a. This is not a well-known man.
 b. There is a well-known man x such that this is not x .

I will assume that, since identificational sentences are of a different construction type than ordinary subject-verb-object sentences, the impossibility of wide scope over negation can be explained independently.

Note that unlike in ordinary subject-predicate sentences, a specific interpretation of an indefinite in the postcopula position of an identificational sentence is available:

- (iv) We could choose any personality we liked, except that it could not be a well-known artist.

Before elaborating such a two-stage semantics, let us ask the question: what kinds of entities should the presentations or features be that presentational pronouns make reference to? What naturally first comes to mind is that they are contextually provided properties, just as on Mikkelsen's account of presentational pronouns as propredicative pronouns. Presentational pronouns would not play the role of predicates, though, but rather would be property-referring. This account would be supported by the observation that *this* and *that* may relate to a property provided by the linguistic context, as in (35a), or by the construction of the sentence itself, as in the cleft construction in (35b):

- (35) a. Someone had come in. That was Mary.
 b. That was John who solved the problem.

There are serious problems, however, for the view that presentational pronouns refer to properties. Properties may have many instances, but *this* and *that* can make reference only to a presentation of a unique individual. This holds both for discourse-related and for deictic uses of presentational pronouns. First, discourse-related *this* and *that* cannot make reference to a property specified by the preceding discourse that would be true of distinct individuals at once, as can be seen from the unacceptability of the following sentence sequences:

- (36) a. * There was a beautiful woman in the garden. That was Mary, and that was also Sue.
 b. * There were beautiful women in the garden. That was Mary, and that was also Sue.

Second, when *this* and *that* relate to a presentation given by the perceptual context, then they do not refer to a property. If they did, they would act as 'type demonstratives', referring to a type an instance of which is being perceived. Natural language does indeed allow for type demonstratives, for example *this color* in *The car is this color*.¹² But presentational pronouns simply do not act as type demonstratives. Otherwise the type being referred to would have to be something able to have several instances, which is impossible. *This is Mary* could not possibly be true in case Mary looks like the blue figure in the distance that the speaker is pointing at. The sentence can be true in such a context only if Mary in fact *is* that figure.

If a presentational pronoun relates to some perceivable feature in the nonlinguistic context, it should in fact be that feature as a particular that the pronoun makes reference to, not a property or a type as a universal. An identificational sentence then states that the individual is the bearer of that particular feature.

Such 'perceptual features' are to be understood as concrete manifestations of a perceivable property: a patch of color, a form, or a sound (or a combination of such features). In metaphysics, such particularized properties have been recognized as an ontological category of their own—as 'accidents', 'modes', 'property instances',

¹² For the notion of a type demonstrative see Levine (2010).

Events are of course entities closely related to tropes. Most importantly, like tropes, events depend on individuals, the event participants. Thus, they are suited for identificational sentences, identifying the participant of an event (for an event with a single participant). In what follows, I will disregard the event-related use of presentational pronouns for the sake of simplicity.

Here are some cases where presentational *this* and *that* are not possible:

- (39) a. (Pointing at a house and meaning Mary, who is in the house:) This is Mary.
 b. (Pointing at a dress and meaning Mary, who owns the dress:) This is Mary.
 c. (Hearing a man talking and meaning Mary, whom the man is talking about:) This is Mary.

The reason obviously is that the presentational pronoun in these cases picks out a (visual or auditory) trope which does not have Mary as its bearer.

By using a presentational pronoun, the speaker refers to a trope. Presentational pronouns are not ordinary trope-referring terms, though, since they do not act like referential terms and in particular cannot be replaced by explicit trope-referring terms:

- (40) a. * That feature is Mary.
 b. * That noise is Sue.
 c. * That smell is Kate.
 c. * That drive is Joe.

A presentational pronoun as the subject of an identificational sentence thus does not contribute a trope to the compositional meaning of the sentence. Rather, its contribution to the meaning of the sentence—its *presentational denotation*, as I will call it—needs to be distinguished from the entity a speaker refers to when using the pronoun—its *referential denotation*, as I will call it. I will take the presentational denotation of a presentational pronoun to be a function that is based on the trope the speaker refers to when uttering the presentational pronoun. It is the function mapping an epistemically possible or conceivable world to the entity that according to that world is the bearer of the trope in question.¹⁴ Thus, presentational pronouns involve a two-stage semantics, consisting of a referential denotation, the trope a speaker refers to when using the pronoun, and a presentational denotation, the contribution of the presentational pronoun to the compositional meaning of the sentence.

Insofar as they involve a two-stage semantics, presentational pronouns are not alone. Many indexical expressions in fact are not referential terms, yet involve reference to an entity in the context. *Here*, for example, involves reference to a region including the location of the speaker, but *here* acts as a predicate of individuals (*John is here*) as well as an adverbial, that is, as a predicate of events (*John works here*). There are also a range of indexical adverbials and predicates that

¹⁴ The function applies to conceivable or epistemically possible worlds, which need not be metaphysically possible worlds: it is generally assumed that tropes ontologically depend on their bearer and thus have the same bearer in all metaphysically possible worlds. But this does not hold for conceivable worlds, which may violate metaphysical constraints.

involve reference to a trope or quality, yet are not trope-referring or quality-referring terms.¹⁵ They include the adverbials *thus* and *so*, as in (41a,b), as well demonstrative predicative or adverbial NPs such as (relevant uses of) *that way* and *this color*, as in (41c,d):

- (41) a. John sang *thus*.
 b. Mary placed the vase *so*.
 c. John painted the picture *that way*.
 d. The house is *this color*.

Thus, *so*, and *that way* involve reference to a contextually given feature or quality of events, but as adverbials they express the property that holds of an event *e* in case *e* shares the same sort of feature or has that quality.

This color can act both as a referential term and as a predicate. As a referential term, it acts as a type demonstrative with which a speaker refers to a quality by pointing at an instance (*I have never seen that color*). But it also acts as a predicate of individuals, as in (40d). In that case, it expresses the property of an individual of having the quality a sample of which the speaker points at.¹⁶

Like presentational pronouns, indexical predicates *thus* involve a two-stage semantics. It consists in reference to an entity or type of entity and in the expression of a property. That is, indexical predicates will have two denotations: a referential denotation and, based on that, a predicative denotation.

For indexical predicates there are sometimes equivalent complex expressions that display the two-stage meaning explicitly. For example, *thus* has a meaning more explicitly expressed by *in this manner*, with a preposition and the indexical referential term *this manner* (Heal 1997). For presentational pronouns, by contrast, there do not seem to be corresponding complex expressions in English containing explicit trope-referring terms.

I can now spell out the semantics of presentational pronouns, distinguishing referential and presentational denotations. With the utterance of a presentational pronoun a speaker refers to a trope, which will thus be the pronoun's referential denotation.¹⁷ The denotation of the presentational pronoun as subject of an identificational sentence will be the function identified by that trope, a function mapping a world onto the individual (or the plurality of individuals) that according to that world is a bearer (are bearers) of the trope. Thus, the two-stage denotation of presentational *this* (or *that*) will be as below¹⁸:

¹⁵ See Heal (1997) for a discussion of indexical predicates, which for her include indexical adverbials.

¹⁶ *Thus* and *so* are perhaps not type demonstratives, (involving reference to a kind of trope). They may just involve reference to a particular trope. *This color* certainly is a type demonstrative (Levine 2010).

¹⁷ The trope should be part of the perceptual context, but it will ultimately depend on the speaker's intentions which trope the presentational pronoun refers to; that is, the perceptual context does not act like a demonstration on which the referent of a demonstrative depends, as is possible with certain uses of demonstratives.

¹⁸ I will disregard the semantic difference between *this* and *that*, since it is not crucial to the main idea.

(42) *The denotation of trope-related presentational ‘this’:*

a. *Referential denotation:*

For a context of utterance c and a world w ,
 $[this]_{ref}^{c,w}$ = the trope that the speaker of c refers to with the utterance of *this* in c .

b. *Presentational denotation:*

$[this]^{c,w}$ = the function that maps any conceivable world w' , compatible with what is known in w , to the sum of entities that according to w' are the bearers of $[this]_{ref}^{c,w}$.¹⁹

Discourse-related presentational pronouns also have as their denotation a function from worlds to individuals, but the function is obtained differently: the function will be the intension of the description obtained from the preceding discourse that the pronoun relates to:

(43) *The denotation of discourse-related ‘it’ (and ‘that’, ‘this’):*

For a context of utterance c containing a unique discourse-driven (partial) description D and a world of evaluation w ,

$[it]^{c,w}$ = the function that maps any world w' to the sum of entities in w' of which D holds in w' , if there are such entities; undefined otherwise.

2.2 Reference to tropes with referential pronouns

English *this* and *that* can also act as simple trope-referring terms, in sentences other than identificational ones. Most obviously this is the case in the construction *like this* or *like that*:

- (44) a. Mary looks like this.
 b. Sue sounds like this.
 c. Sue smells like that.

¹⁹ The bearer of the trope that a presentational pronoun makes reference to may be a plurality. In such a case English uses the plural presentational pronoun *these*:

- (i) These are John and Mary.

Plural morphology here is obviously driven by the plurality of the bearer of the trope, not the trope itself (it is not clear that tropes form pluralities, since they generally belong to the mass domain). In other languages, such as German and French, if the bearer of the trope is a plurality, a singular presentational pronoun goes together with plural marking of the verb:

- (ii) a. Das / * Diese sind Hans und Maria.
 this / these are John and Mary
 b. Ce sont Jean et Marie.
 this are John and Mary

Thus, (44b) appears equivalent to (44d) and (44c) to (44e)²⁰:

- (44) d. Sue sounds like this sound.
e. Sue smells like this smell / this perfume.

In fact, *like this* is the more explicit version of indexical adverbials such as *that way*, *so*, or *thus* (as in *Mary looks that way*).^{21,22}

Trope-referring pronouns can also occur in what appear to be ordinary identity statements:

- (45) a. This is what Sue looks like.
b. This is what incense smells like.

Example (45a) expresses the identity between the trope referred to by *this* (the ‘visual appearance’ in question) and the trope that Sue stands in the resemblance (‘like’) relation to. (45b) involves genericity and presumably reference to a kind of trope, stating the identity between the kind of trope referred to by *this* and the kind of smell of any given (typical) sample of incense.²³

²⁰ For some reason, the noun *feature* does not give the right equivalence, as an anonymous referee has pointed out:

- (i) ??? Mary looks like this feature.

Note, though, that other nouns for visual tropes may make the point, for example *figure*:

- (ii) Mary looks like this figure over there.

²¹ The construction seems subject to language-particular constraints. Thus, German *das*, which can act as a presentational pronoun, is not permitted in a construction of the sort *wie das* ‘like this’. Instead a simple indexical adverbial *so* ‘so’ has to be used:

- (i) a. * Hans roch wie das.
‘John smelled like this’.
b. Hans roch so.
‘John smelled like this.’

But *das* is permitted as presentational subject in the construction below:

- (ii) Das riecht wie Hans.

²² *This* in *like this* can also refer to a purely phenomenal experience, as witnessed various examples in the literature on the philosophy of mind, such as the one below:

- (i) Pain feels like this.

²³ The sentences in (45) are different from the ones below:

- (i) a. This is how Sue behaves.
b. This is how John did it.

Here, unlike in (45), the order of subject and postcopula phrase cannot be reversed:

- (ii) a. * How Sue behaves is this.
b. * How John did it is this.

Perhaps (ia)–(ib) are in fact inverted specificational sentences, with *this* specifying the kind of trope that the postcopula NP describes.

There is a particular class of sentences where the function of *this* or *that* as either presentational or referential is less obvious, namely sentences describing phenomenal experiences²⁴:

- (46) a. This looks like Mary.
 b. This sounds / smells / feels like Sue.

In such sentences, the predicate needs to be a predicate of perceivable tropes. It cannot be a predicate of agents, as Carlson (1991) pointed out:

- (47) a. * This sings like Mary. (Carlson 1991)
 b. * This moves like Mary.

One might take the sentences in (46) to express a comparison between individuals and tropes, with the function of the main verb being to specify the phenomenal dimension with respect to which the comparison is made. On this view, *this* and *that* in (46) would be trope-referential terms. However, there is evidence that the sentences in (46) are in fact identificational sentences. First of all, if these sentences were to express a comparison between entities, one would expect other expressions of comparison to be acceptable as well, such as *similar* or *just / exactly like*. But they are not, as seen in (48)—as opposed to sentences with referential subjects, as in (49):

- (48) a. * This sounds similar to Mary. (Carlson 1991)
 b. * This sounds just / exactly like Mary.
 (49) a. This sounds similar to that.
 b. This car sounds similar to that car.

A further observation is that *this* and *that* in sentences such as (46a,b) can act as antecedents of presentational pronouns in identificational sentences, as in (50a,b):

- (50) a. This looks like Mary. But in fact it is Sue.
 b. This is Sue. But it looks like Mary.

Trope-referring *this* or *that*, by contrast, cannot easily serve as antecedent for presentational pronouns, or conversely²⁵:

- (51) a. ? Mary looks like this. But it is in fact Sue.
 b. ?? This is Sue. Mary does not look like it.

This indicates that the sentences in (46) are in fact identificational sentences of some sort. Note also that a natural paraphrase of (46a) is the sentence below, with an identificational sentence as the *as*-clause:

²⁴ Such sentences are mentioned within a discussion of identificational sentences by Carlson (1991).

²⁵ This also holds for trope-referring pronouns in the object position of a perception verb:

- (i) a. ?? Did you hear that? It could have been Mary.
 b. ?? Look at this! It could be Mary.
 c. ?? That was Sue! Did you see it?

(52) a. This looks as if it was Mary.

Sentence (52a) appears to be derived from (52b), with expletive *it* in subject position:

(52) b. It looks as if this was Mary.

In (52b), *looks* acts as a sentential operator, with the *as*-clause specifying the content of an epistemic state. Without going into a detailed syntactic analysis, we note that a similar underlying syntactic form is plausible for (46a), as in (52c)²⁶:

(52) c. looks like [this (is) Mary]

That is, (46a) would be derived from (52c) by raising of *this* into subject position. Given such an analysis, the sentences in (46) will thus classify as identificational sentences, with *look* acting like an epistemic modal.

3 The connection to specificational sentences

Identificational sentences share a range of properties with specificational sentences—sentences with a *wh*-clause or a definite description in subject position as in (53)²⁷:

- (53) a. What John saw was Mary.
 b. What John is is happy.
 c. The best player is John.

In fact, sometimes identificational sentences have been considered a special case of specificational sentences (Mikkelsen 2004).²⁸ Like identificational sentences, specificational sentences require the copula *is* and, at least if the subject describes an individual, a proper name or indefinite in postcopula position (Higgins 1973):

²⁶ For a raising analysis of *look*-sentences see also Brogaard (2010).

²⁷ Specificational sentences have an important characteristic that should be mentioned even if it will not play a role in this paper. Specificational sentences exhibit what is called *syntactic connectedness* (Higgins 1973). Syntactic connectedness manifests itself, for example, in the possibility that an antecedent within the subject of a specificational sentence is able to bind a reflexive in the postcopular expression which it does not c-command, as in (ia), a possibility unavailable in ordinary subject-predicate sentences, such as (ib):

- (i) a. What John_i is is proud of himself_i.
 b. * John_i's wife is proud himself_i.

Syntactic connectedness also manifests itself in the possibility of a quantifier within the subject binding a pronoun acting as a variable in the postcopula NP, as in (iia), which again is impossible in ordinary subject-predicate sentences, such as (iib):

- (ii) a. What every man admires most is his mother. (bound-variable reading of *his* possible)
 b. Every man's mother is proud of him. (bound-variable reading of *him* impossible)

²⁸ Higgins (1973) considered identificational sentences a sentence type distinct from that of specificational sentences. Heller and Wolter (2008) take identificational sentences not to be specificational but predicational—mistakenly, I think. See fn. 8.

- (54) a. What John saw was a woman.
 b. * What John saw was beautiful. (if referring to a woman)

Moreover, like identificational sentences, specificational sentences are impossible as small clauses, as seen in (55a), as opposed to ordinary subject-predicate sentences, as in (55b) (Mikkelsen 2004):

- (55) a. * I consider the best player John.
 b. I consider John the best player.

However, there are also differences between identificational sentences and specificational sentences, more or less known from the literature. Thus, as pointed out by Higgins (1973), the order of subject and postcopula NP can be reversed in specificational sentences, but not in identificational sentences:

- (56) a. Mary is what John saw.
 b. * Mary is that / this / it.

VP deletion as well distinguishes between identificational and specificational sentences (Higgins 1973; Heller 2005; Heller and Wolter 2008):

- (57) a. This is Mary; this isn't.
 b. * What John saw was Mary; what Bill saw wasn't.

Thus, presentational pronouns can occur only in subject position, unlike the *wh*-clause of a specificational sentence. I will not go into a discussion of why this is so or address further syntactic differences between identificational sentences and specificational sentences.²⁹ Rather, I would like to show that there are a range of connections between identificational sentences and at least certain types of specificational sentences—connections that motivate, and sometimes in fact require, a unified semantic analysis of the two sentence types.

The first connection is provided by tag questions. In general, tag questions are considered indicative of specificational sentences in the following way. In specificational sentences, only the neutral *it* is permitted in a tag question, as in (58a), as opposed to predicational sentences, such as (58b), where no such constraint holds:

- (58) a. The best player is John, isn't it / * he?
 b. The best player is American, isn't it / isn't he?

A tag question is in fact itself an identificational sentence, displaying VP deletion.

²⁹ Higgins (1973, Chap. 6) points out a number of peculiarities of specificational pseudoclefts—that is, sentences with a free relative in subject position and a nonreferential expression in postcopula position (such as *What John is proud of himself*)—for example the unacceptability of modal verbs, adverbs, or negation. Those peculiarities are not generally shared by identificational sentences or in fact specificational sentences with definite or exceptionally neutral relatives in subject position. Heller (2005) and Heller and Wolter (2008) take those peculiarities, or some of them, to distinguish specificational sentences in general from identificational and predicational sentences.

A second connection consists in presentational pronouns being able to anaphorically relate to a previously given question or wh-phrase in a specificational sentence (cf. Schlenker 2003; Mikkelsen 2004):

(59) What did John see? Was *that* Bill or Mary?

In French and German, this is even more obvious. Here left dislocation of the free relative in subject position is obligatory (in French) or sometimes obligatory (in German), requiring a presentational pronoun in subject position:

(60) Ce qui j'ai rencontré, *(c')était Jean.
'That whom I met that was John.'

(61) Wen ich getroffen habe, *(das) war Hans.
'Whom I met, that was John.'

This means that presentational pronouns can have just the kind of denotation that wh-clauses have in specificational sentences. So the semantics of identificational sentences should at least be closely related to the semantics of specificational sentences.

Another kind of connection between identificational sentences and specificational sentences is displayed by left dislocation of *as for*-phrases in English. Left dislocation of the subject of a specificational sentence requires the neutral pronoun *it* in subject position, as in (62a), but not so for left dislocation of the subject of a predicational sentence, as in (62b):

(62) a. As for the best player, it / * he is John.
b. As for the best player, * it / he is American.

In fact, the result of left dislocation of the subject of a specificational sentence yields an identificational sentence with *it* as subject. Left dislocation then requires the same denotations of the subject and of the postcopula NP in an identificational sentence as in the corresponding specificational sentence.

Anaphoric pronouns in a subsequent sentence can also show a link between specificational and identificational sentences. When taking as antecedent the subject of a specificational sentence, as in (63), anaphoric pronouns must appear in neutral form and thus occur in an identificational sentence:

(63) The chairman is John. It / * He is not Joe.

To summarize, there is a range of devices that link specificational and identificational constructions in such a way that a unified semantics is not only plausible but seems indeed required. There is, moreover, a particular kind of specificational sentence that gives specific evidence for the same trope-based semantic analysis as was proposed for presentational pronouns.

4 Exceptionally neutral free relatives

4.1 Exceptionally neutral free relatives as trope-referring terms

Certain free relative clauses that are the subjects of specificational sentences are formed with a neutral *wh*-pronoun even though they appear to describe a person³⁰:

(64) What I saw was John.

I will call such free relative clauses ‘exceptionally neutral free relatives’.

Exceptionally neutral free relatives are subject to the same restrictions as presentational pronouns. They can occur only in the subject position of sentences with the verb *be*, they cannot be coordinated with ordinary referential NPs, they are incompatible with ordinary variables, and they require a referential NP (in the relevant sense) in postcopula position:

- (65) a. * John loves what you see here.
b. * What you see here studies in Munich.
c. * What you see here and Bill are a nice couple.
d. * What you see here, whom I have known for a long time, is a very beautiful woman.
e. * What you see here is very beautiful. (referring to a woman)
f. What you see here is a very beautiful woman.
g. What you see here is Mary.

Moreover, exceptionally neutral free relatives force the epistemic interpretation of a co-occurring modal. Thus, *must* in (66a) permits only an epistemic, not a deontic interpretation, and *could* in (66b) likewise can be understood only as expressing epistemic possibility, not physical possibility.

- (66) a. What you see must be a student.
b. What you see could be a gymnast.

The crucial observation in the present context is that exceptionally neutral free relatives are subject to particular restrictions on the verb they contain. They allow only for verbs describing (visual, tactile, or auditory) perception:

- (67) a. What Mary noticed was John.
b. What Mary touched / ran into was John.
c. What Mary just heard was John.

Exceptionally neutral free relatives do not allow for any verbs that imply that the argument in question is a person or that are not perception verbs:

³⁰ Sometimes the *wh*-clauses in the subject position of specificational sentences are regarded as interrogatives (Schlenker 2003, among others). I will adopt the more common view that they are free relatives (see Caponigro and Heller 2007 for discussion).

(68) * What Mary greeted / shook hand with / met was John.

The distinction in question cannot be that between perception verbs and non-perception verbs as such. Perception verbs implying object recognition are not good in exceptionally neutral free relative clauses:

(69) * What Mary recognized was John.

Thus, exceptionally free relatives are restricted to verbs describing ‘mere’ perception.

The notion of a trope allows for a straightforward explanation of this restriction: only those verbs are permitted in exceptionally neutral relatives whose argument can be considered a trope. Tropes, recall, arguably are the objects of direct perception. Tropes thus qualify as arguments of verbs of perception that do not imply the recognition of an individual, such as *see*, *notice*, *touch*, or *hear*. If exceptionally neutral free relatives describe tropes rather than individuals, then the choice of neutral gender of the *wh*-pronoun need no longer be a puzzle (a point which I will come back to shortly).

Just as in the case of presentational pronouns, the trope described by an exceptionally neutral free relative in a specificational sentence will not be the denotation of the free relative, but rather will serve to help identify that denotation, namely as a function mapping an epistemically possible world *w* to an individual that according to *w* is the bearer of the trope. Thus, it is neither the referent nor in fact the intension of an exceptionally free relative clause that will be its denotation as subject of a specificational sentence. As in the case of presentational pronouns, a referential denotation (the trope) needs to be distinguished from the presentational denotation—the denotation that will enter the semantic composition of the meaning of the sentence.

The semantics of exceptionally free relatives will then be as follows. The referential denotation of an exceptionally neutral free relative is the trope that is the argument of the perception verb with respect to the agent in question, or rather the sum of the tropes that act as such arguments—the maximal trope playing that role. The latter is required for the same reason as with ordinary free relatives: free relatives need not denote a single individual, but rather denote the sum of individuals satisfying the description (Jacobson 1995; Heycock and Kroch 1999). The presentational denotation of an exceptionally free relative then is a function mapping an epistemically possible world to the bearer of that maximal trope, or the sum of the bearers of that trope. Thus, the denotation of an exceptionally neutral free relative (of a simple form) will be as follows:

(70) *The denotation of exceptionally neutral free relatives:*

a. *Referential denotation:*

For a context of utterance *c* and a world of evaluation *w*,
 $[what\ NP\ V\ t]_{ref}^{c,w} = \text{sum}(\{t \mid \langle [NP]^{c,w}, t \rangle \in [V]^{c,w}\})$

b. *Presentational denotation:*

$[what\ NP\ V\ t]^{c,w} =$ the function that maps any world *w'* compatible with what is known in *w* to the sum of entities *x* such that *x* is a bearer of $[what\ NP\ V\ t]_{ref}^{c,w}$.

Sums are needed in case the postcopula NP is plural, as below:

(71) What I saw were John and Mary.

In fact, sums may also be involved if the postcopula NP is singular: the postcopula NP may just specify part of what was perceived. There exist both an exhaustive reading and a mention-some reading of specificational sentences (Romero 2005). I take the two readings to be available on the basis of a single interpretation of specificational *be*, following Romero (2005):

(72) For a context c , a world w , an individual concept C , and an individual d ,
 $\langle C, d \rangle \in [i_{s_{\text{spec}}}]^{c,w} = 1$ iff $d \leq C(w)$.

Here \leq is the ‘part of’-relation.

Let us turn to the interpretation of modals in identificational and (the relevant types of) specificational sentences. We have seen that, apparently, modals in such sentences must be interpreted epistemically. Given this, our current condition is in fact not entirely correct: the correct condition is that the subject of an identificational or specificational sentence (of the relevant sort) must be interpreted as an individual concept within the scope of the modal. Specificational sentences with definite NPs as subject show that the interpretation of the modal may also be deontic, as in the examples below:

(73) a. The chairman could be Bill, couldn’t it?
 b. The president must be a US citizen. It may not be a German citizen.

The reason why with presentational pronouns or exceptionally neutral free relatives an epistemic interpretation is the only plausible one is that other interpretations would not match the kind of individual concept in question. Individual concepts identified by perceivable features are functions mapping an epistemically possible world to the object that according to that world is the bearer of the feature. A modal then will have to relate to the very same worlds. No such constraint to epistemically possible worlds holds for definite NPs as specificational subjects.

Combining the denotation of a subject as in (71) and the copula as in (72) results in the narrow scope effect of the subject with respect to a modal, as below, where the postcopula NP has an (optional) *de dicto* interpretation:

(74) $[NP_1 \text{ might be } NP_2]^{c,w} = 1$ iff $\exists w'(w'Rw \rightarrow \langle [NP_1]^{w,c}(w'), [NP_2]^{w',c} \rangle \in [be_{\text{spec}}]^{c,w})$

4.2 Other specificational subjects: proper names

Presentational pronouns and exceptionally free relatives, as we have seen, involve a two-stage interpretation with a referential and a presentational denotation. Other definite NPs have simply their intension, an individual concept, as their denotation when they occur as subjects of specificational sentences. It appears that there is yet another way for a subject of a specificational sentence to obtain its denotation. A

proper name may also occur in the subject position of a specificational sentence. This can be seen from the fact that, as Mikkelsen (2004) observes, it may go along with *it* as well as *she* or *he* in a tag question:

(75) John Miller is him. Isn't it / he?

Further evidence that proper names can function as specificational subjects comes from German, where left dislocation of a proper name in a specificational sentence is possible with the presentational pronoun *das*:

(76) Maria, das ist eine schöne Frau.
'Mary, that is a beautiful woman.'

The standard view of proper names is the direct-reference view, according to which proper names only have a referent and no descriptive meaning, and thus have an intension that is a constant function (as rigid designators). However, as the subject of a specificational sentence, a proper name will be associated with a particular individual concept that is a non-constant function, namely a function mapping an epistemically possible world to the object that according to that world is the bearer of the proper name. The loss of the status of a proper name as a rigid designator in that position can be seen from the interaction of the proper name with an epistemic modal, as in (77a) with left dislocation in German, as well as its English counterpart in (77b):

(77) a. Maria M, das könnte Anna oder aber auch Susanne sein.
'Mary M, that could be Ann or else Sue.'
b. Mary M could be Ann or Sue.

In the role of a specificational subject, a proper name will have the relevant individual concept as its denotation, rather than acting as a rigid designator.

We can conclude that the denotation as an individual concept of an expression occurring as subject of a specificational sentence is tied to that particular syntactic environment and is only partially determined by the semantics of the expression itself. Different methods for different expressions are available for construing an individual concept so as to meet the requirement of that environment.

4.3 Explaining exceptional neutrality

A remaining question is, how can the exceptional neutrality of presentational pronouns be explained? For trope-related presentational pronouns and exceptionally neutral free relatives, there is a straightforward explanation available: the gender of the pronoun is not interpreted at the stage of the presentational denotation, but rather at the stage of the referential denotation—that is, the denotation that consists in a trope, an entity that of course demands neutral gender. If both a referential and a presentational interpretation are needed for the evaluation of an expression in a sentence, then either interpretation should in principle be available for the evaluation of interpretable syntactic features of the expression.

This also allows for an explanation of the exceptional neutrality of presentational pronouns relating to a proper name. Pronouns in that function have a presentational

denotation that is a function identified by a particular use (or chain of uses) of the proper name, rather than the referent of the proper name. If this use of the proper name is taken to be the referential denotation of the pronoun, then an explanation of the exceptional neutrality of the pronoun is straightforward: the use of the proper name as referent requires neutral gender. Note that neutral gender is also displayed by a pronoun taking a quoted proper name as antecedent (*She called him Joe; she had never called him that before*).

But why do ordinary definite NPs as specificational subjects require the neutrality of pronouns anaphorically relating to them (as in tag questions)? A plausible reason is that no referential denotation plays a role in the compositional semantics of such definite NPs as specificational subjects and thus neutral gender is chosen as the default option, in the absence of the relevant stage of interpretation for the evaluation of pronominal features.

4.4 Other semantic approaches to specificational sentences

How does this analysis fare with respect to the kinds of analyses that have been proposed for specificational sentences in general? There are two main approaches to specificational sentences to consider: the Identity Theory (Jacobson 1994; Sharvit 1999; Heycock and Kroch 1999) and the Question-Answer Theory (den Dikken et al. 2000; Schlenker 2003).³¹

The Identity Theory takes specificational sentences to express the identity of the denotation of the subject with the denotation of the postcopular expression. One version of the Identity Theory (Jacobson 1994; Sharvit 1999) allows specificational sentences to state the identity of any higher-order semantic values; another version (Heycock and Kroch 1999) allows the stated identity to obtain only between objects or properties.

The Question-Answer Theory takes specificational sentences to express a relation between a question and an answer.³² Given Groenendijk and Stokhof's (1982) extensional view of questions, the semantics of specificational sentences will be very simple: specificational sentences will express an identity between propositions (Schlenker 2003). If a specificational sentence expresses the identity between two propositions, then the postcopula expression must be considered an elided answer or else a 'short answer', providing just an object, not a proposition.

It is easy to see that neither the Identity Theory nor the extensional Question-Answer Theory could do justice to presentational pronouns: they are not referential terms, as those theories would require.

Groenendijk and Stokhof (1982) actually distinguish between extensional and intensional questions: intensional questions are functions from possible worlds to answers true in those worlds. Clearly, presentational pronouns can only stand for an intensional question-like object. An intensional question whose answer is an object will be a function mapping a possible world to an object that in that world would

³¹ For a third approach, the Inverted Predicate Theory, see Sect. 1.2 and fn. 1.

³² There are different conceptions of questions, as sets of possible answers (Hamblin 1973), as sets of true answers (Karttunen 1978), or as a single exhaustive answer (Groenendijk and Stokhof 1982).

constitute an answer to the question. Formally, this means that presentational pronouns denote individual concepts, as on Romero's (2005) as well as the present analysis.³³

5 Presentational pronouns and apparent relative identity statements

There is a particular class of philosophically significant sentences containing presentational pronouns or free relatives in subject position, namely what appear to be statements of relative identity. The present analysis of identificational and (certain types of) specificational sentences accounts for such sentences straightforwardly, without involving the controversial notion of relative identity.

To give an example of such a statement, suppose a certain lump of clay is modelled into a distinctly round statue at one point in time and then remodelled into another, distinctively angular statue at another point in time. For someone looking at two photographs of the two statues, the following sentence seems both acceptable and true:

(78) This is the same lump of clay but not the same statue as that.

Sentence (78) is a statement that appears to describe relations of relative identity—identity that is relative to a sortal concept. It apparently involves two referential terms, *this* and *that*, and says that the referent of the one term is identical to the referent of the other term relative to the sortal concept 'lump of clay', but not relative to the sortal concept 'statue'.³⁴

³³ Romero (2005) takes the verb *be* in specificational sentences to be intensional with respect to the subject position and the subject NP to be a concealed question. But *be* cannot be an intensional verb of the usual sort: NP complements of intensional verbs can be indefinite and quantificational, which is generally not possible for the subjects of specificational sentences. Conversely, not all presentational pronouns could take the place of NP complements of intensional verbs; for example in English, discourse-related *it* can't:

- (i) John needs an assistant. Mary needs one / that too / * it.

Thus, it is the particular syntactic context of the subject position of a specificational sentence in which a range of expressions, such as presentational pronouns, free relatives, and definite NPs, can have the particular function of denoting individual concepts.

A definite NP in the subject position of a specificational sentence also cannot be a concealed question of the usual sort, as noted by Schlenker (2003). For example, *John's worry* can act as the subject of a specificational sentence, but it cannot act as a concealed question:

- (ii) a. John's worry is Mary.
b. * Bill knows John's worry. (i.e. what John's worry is)

³⁴ *Same* and *different* may also go along with a comparative clause:

- (i) a. This is the same man as we saw yesterday.
b. It was the same man as I saw yesterday.

This and *that* are also used when stating the apparent relative identity of people³⁵:

(79) This is the same man as that.

There is also a conjunctive version of apparent relative identity statements, with conjoined presentational pronouns:

(80) This and that are different statues, but the same lump of clay.

Again, a suitable context for (80) would be one of being presented with photographs of two different statues made of the same clay at different points in time.

Apparent relative identity statements can also be formed with free relative clauses:

- (81) a. What you see here is the same lump of clay, but not the same statue as what you see there.
 b. What Heraclitus stepped in today and what Heraclitus stepped in yesterday is the same river, but not the same water. (Perry 1970)

Statements such as (78), (79), (80), and (81a,b) are entirely natural sentences in English, and as such appear to give support for Geach's (1962, 1972) metaphysical view that the identity of objects is sortal-relative, rather than absolute.

Geach's view that identity is sortal-relative is a highly controversial metaphysical view, though. The world, according to Geach, does not consist of individuals as such, but rather is divided into various equivalence classes of entities via sortal concepts. For an entity *x* to be identical to an entity *y* relative to a sortal concept *S* means that *x* and *y* belong to the equivalence class defined by *S*. Entities *x* and *y* may at the same time belong to different equivalence classes defined by different sortals. The primary use of a sortal concept *S* for Geach is in fact that of the expression of relative identity 'is the same *S* as'. It is only by 'derelativization' that sortals are obtained as one-place predicates; that is, a one-place sortal predicate *S* is defined as: *x* is an *S* iff *x* is the same *S* as something else. The view that identity is always sortal-relative is a view that has been subject to severe criticism by various philosophers, which I will not go into in detail (Quine 1964; Dummett 1973, 1981; Hawthorne 2003; Deutsch 2002). Suffice it to say that relative identity undermines fundamental notions of classical logic, the use of variables, as well as established notions of reference, or so it has been argued. The notion of relative identity is also itself hard to understand, as Dummett (1973) has argued: if it is a relation, then given our understanding of what a relation is, it should hold between entities with identity condition. But then, Geach's view would itself be incoherent: relative

³⁵ For some reason, German and French require personal pronouns after the comparative preposition and disallow presentational pronouns:

- (i) C'est une autre femme qu'elle / que celle-là / * que ça.
 'This is a different woman than her / her there / that.'
 (ii) Das ist eine andere Frau als sie / * das.
 'This is a different woman than her / that.'

identity was exactly what gives entities their identity; but if relative identity is not a relation, it is hard to see what else it could be.

Sentences like (78), (79), (80), and (81a,b) with presentational pronouns or free relative clauses appear to be truly natural sentences in English describing (apparent) cases of relative identity. This is not so for other kinds of sentences expressing apparent relative identity that are more often discussed in the philosophical literature, such as (82a–c):

- (82) a. ?? This lump of clay is the same material, but a different statue than that lump of clay.
 b. x is the same statue as y , but x is not the same lump of clay as y .
 c. a is the same statue as b , but a is not the same lump of clay as b .
 (with ‘ a ’ and ‘ b ’ standing for temporal slices of a statue)

It is certainly less clear that sentences such as (82a) are acceptable or ‘natural’ sentences of English. (82b), by containing variables, is in fact not a sentence of English at all, nor is (82c) with its rather unusual use of proper names for temporal stages of entities.

Though presentational pronouns and free relative clauses are natural in apparent relative identity statements, they are not natural in absolute identity statements. When we look at two distinct representations of a given man, (83a) and (83b) are unacceptable:

- (83) a. * This is identical to that. (looking at two representations of a given man)
 b. * This is that. (looking at two representations of a given man)

Instead, absolute identity statements require ordinary referential NPs:

- (84) a. This man is identical to that man.
 b. John is Bill.

The reason is that apparent relative identity statements are identificational sentences. This also means that in apparent relative identity statements the NP with *same* or *different* does not have a predicative function, but rather a referential, object-introducing one.

The semantics of apparent relative identity statements falls out straightforwardly from the account of identificational and specificational sentences given in this paper. All that needs to be added is the recognition that tropes as well as sortal-free descriptions may have multiple bearers. This in turn will go together with the independently motivated assumption that the function denoted by the subject of a specificational sentence is a function from worlds to pluralities of individuals, and the assumption that the copula in specificational sentences expresses inclusion in such a plurality.

Let us start with the failure of bearer uniqueness for descriptions. Free relative clauses may fail to describe a unique object because they fail to have sortal content. *What Heraclitus stepped into today* fails to describe a unique object since both a particular quantity of water and a river satisfy its descriptive content. In that respect,

free relative clauses differ from noun phrases which generally have sortal content (provided by the head noun).³⁶

Particularized properties or tropes as well may fail to have a unique bearer, for just the same reason. For example, a complex trope of roundness and brownness can have both a lump of clay and a statue as bearer. A complex trope of angularity and brownness can have two bearers as well, such as the same lump of clay and a different statue.³⁷

Thus, neither sortal-free definite descriptions nor tropes need to have a unique object as bearer; instead, both have a set of ontologically closely related objects as bearers—objects which are generally spatially coincident at the relevant time. It is precisely this feature of sortal-free descriptions and of tropes that will explain the possibility of apparent relative identity statements.³⁸

If descriptions and tropes have multiple bearers, they will not correspond to a function from possible worlds to single individuals, but to pluralities of individuals. Also, they will not correspond to a question with a unique answer, just as the corresponding overt question exhibits lack of uniqueness of an answer. Thus, the question ‘What did Heraclitus step into?’ has two possible answers (‘that water’ or ‘that river’). A question about an object of perception such as ‘What did John see?’ may have as two possible answers ‘this lump of clay’ or ‘this statue’ (Lowe 2008). Of course, in any normal context just one answer suffices. The lack of exhaustiveness displayed by such questions appears then to show simply that we are dealing with a mention-some question. Typical mention-some questions such as ‘Where can one buy a newspaper?’ do not require an exhaustive answer because the goal of the question is achieved when a less than exhaustive answer is given. Sortal-free wh-questions are (almost always) mention-some questions, since it is hardly ever the aim of a question to get as an answer a mentioning of several spatially coincident, though distinct objects. The one exception where that is in fact the aim of a question is a philosophical context, such as that of an apparent relative identity statement, or simply statements like (85):

³⁶ Note that the sortal is needed to guarantee the uniqueness of a referent of a definite description. A directly referential term, such as a proper name, does not require a sortal in order to refer to a unique object, since its referent is fixed independently of any description.

³⁷ That tropes may lack a unique bearer constitutes a not uncontroversial ontological view, though one I will not defend here. See Levinson (1980) and Schnieder (2004) for discussion and alternative proposals. One case of lack of bearer uniqueness discussed in the literature is the sharpness of the knife and the sharpness of the blade of the knife, which intuitively are exactly the same trope. Another is the redness of the sweater and the redness of the wool of the sweater, which again are intuitively the same trope. Both cases ‘generate’ apparent relative identity statements:

- (i) a. This is the same blade, but not the same knife as that. (looking at wound)
- b. This is the same wool but not the same sweater as that.

³⁸ This presupposes the view that constitution is not identity and that spatially coincident entities may be distinct, a view that not all philosophers share. But I think it is very clear that the ontology of natural language manifests that view: the statue and the clay from which the statue is made not only differ in their modal profiles but also in a range of other properties expressed by natural language. See Fine (2003) for an extensive discussion that takes into account various linguistic intuitions.

(85) What John saw was both a statue and a lump of clay.

What is special about apparent relative identity statements is thus simply the possibility of descriptions or tropes having multiple bearers and the availability of a mention-some question. No notion of relative identity is needed for the semantics of such statements. The subject in an apparent relative identity statement will denote a function from worlds to sums of objects making up an exhaustive answer, and the objects introduced by the postcopula NP will be specified as being among the objects the function yields at the world and time in question.

In an apparent identity statement such as (78) or (81a), the conjunction is arguably (wide-scope) predicate conjunction. A compositional semantic analysis requires combining a semantic analysis of *same/different* with an account of indefinites as expressing choice functions, which will result in the following denotation of (78) (I will not go into the details of how to obtain it compositionally):

(86) $[This\ is_{spec}\ the\ same\ lump\ of\ clay,\ but\ not\ the\ same\ statue\ as\ that]^{c,w} = [This\ is_{spec}\ (a\ lump\ of\ clay\ and\ the\ same\ as)\ and\ (a\ statue\ and\ not\ the\ same\ as)\ that]^{c,w} = true\ iff\ \exists g\exists f(CF(g)\ \&\ CF(f)\ \&\ g([lump\ of\ clay]^{c,w}) \leq [this]^{c,w}(w)\ \&\ f([lump\ of\ clay]^{c,w}) \leq [that]^{c,w}(w)\ \&\ \langle g([lump\ of\ clay]^{c,w}), f([lump\ of\ clay]^{c,w}) \rangle \in [same]^{c,w})\ \&\ \exists f\exists g(CF(f)\ \&\ CF(g)\ \&\ f([statue]^{c,w}) \leq [this]^{c,w}(w)\ \&\ g([statue]^{c,w}) \leq [that]^{c,w}(w)\ \&\ \neg \langle f([statue]^{c,w}), g([statue]^{c,w}) \rangle \in [same]^{c,w})$

That is, in (78) two bearers of the trope referred to by *this* and two bearers of the trope referred to by *that* are specified, and it is said that one bearer of the *this*-trope is the same as one bearer of the *that*-trope (the lumps of clay), but that the other bearers (the statues) are different. The analysis of relative identity statements with free relative clauses will be exactly parallel.

The analysis of conjunctive relative identity statements as below requires an account of conjoined (plural) specificational subjects:

- (87) a. This and that are different statues, but the same lump of clay.
 b. What Heraclitus stepped in today and what Heraclitus stepped in yesterday was the same river, but not the same water.

Here is a sketch of how the analysis might go. I take the conjunction of two individual concepts to consist in the formation of pluralities of the function when applied to possible worlds:

- (88) For individual concepts C and C' , $[and](C, C') =$ the individual concept f such that for any world w , $f(w) = \text{sum}(C(w), C'(w))$.

Given that the values of C and C' at w may themselves be pluralities, the plurality formed in (88) needs to be a second-level plurality: a plurality of pluralities. Using roughly the analysis of *same/different* with plural antecedents given in Moltmann (1992), (87a) can then be analysed as below:

- (89) $\forall y \forall z (y < [This\ and\ that]^{c,w}(w) \ \& \ z < [This\ and\ that]^{c,w}(w) \ \& \ y \neq z \rightarrow \exists f \exists g (CF(f) \ \& \ CF(g) \ \& \ f([statues]^{c,w}) \leq y \ \& \ g([statues]^{c,w}) \leq z \ \& \ \langle f([statue]^{c,w}), \ g([statue]^{c,w}) \rangle \in [different]^{c,w})) \ \& \ \forall y \forall z (y < [This\ and\ that]^{c,w}(w) \ \& \ z < [This\ and\ that]^{c,w}(w) \ \& \ y \neq z \rightarrow \exists f \exists g (CF(f) \ \& \ CF(g) \ \& \ f([lump\ of\ clay]^{c,w}) < y \ \& \ g([lump\ of\ clay]^{c,w}) \leq z \ \& \ \langle f([lump\ of\ clay]^{c,w}), \ g([lump\ of\ clay]^{c,w}) \rangle \in [same]^{c,w}))$

Here ‘<’ is the relation ‘is a proper part of’, which in the case of a plurality of pluralities means ‘is a subplurality of’. Note that on this analysis, the contribution of the predicates *same* and *different* is separated from the contribution of the sortals *statue* and *lump of clay*, which simply have an object-introducing function.

6 Conclusion

Identificational and specificational sentences present one of the most puzzling phenomena in the syntax–semantics interface. In this paper, I have focused on identificational sentences, arguing that they involve (to a great extent) reference to the object of direct perception, a trope, as well as identification of a bearer of that trope. This analysis naturally extends to certain types of specificational sentences, those with exceptionally free relatives. The format of the analysis, moreover, fits well within a certain version of an intensional question-answer theory of specificational sentences.

The analysis has also shed light on a class of what appeared to be philosophically significant sentences apparently expressing sortal-relative identity. Given their analysis as identificational or specificational sentences, those sentences turn out to be not so philosophically significant after all.

Acknowledgments I would like to thank audiences at the IHPST (Paris), Georgetown University, MIT, Nanzan University, NYU, Rochester University, the University of Verona, and Yale University for very stimulating discussions. The research for this paper was supported by the Chaire d’Excellence ‘Semantic Structure and Ontological Structure’ (Agence Nationale de la Recherche Scientifique ANR-06-EXC-012-0).

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