TWO MARKED TYPES OF DISCOURSE ANAPHORA IN ENGLISH: AN EXTENSION OF LEVINSON’S (2000) ACCOUNT

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This article is concerned with the pragmatic conditions under which a given nominal expression can be used anaphorically. Levinson (2000) proposes to account for the conditions in terms of what he calls "the general anaphora pattern," but his account does not fully apply to lexical noun phrases in anaphoric use. Levinson’s idea is extended into a model in which a given nominal may obtain anaphoric function through its role in the context. This model works with a pragmatic heuristic based on contextual part-whole relations. It is shown that the heuristic accommodates various types of lexical noun phrases used as anaphoric devices.*

Keywords: general anaphora pattern, Maxim of Quantity, referential defectiveness, part-whole relations, speech act of evaluation

1. Introduction

In this article, I discuss two marked types of discourse anaphora in English, "anaphoric epithets" such as the one in (1),¹ and what Nishida (2002) calls "reflexive indefinites" such as the one in (2). In what follows, the coreference relation is indicated by underlined noun phrases, or NPs for short.

(1) \[ \text{He} (=\text{Robert Ackley}) \text{ stuck around till dinner-time, talking} \]

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* I would like to thank Peter Connell and Michael Penn, who answered my questions about some English data and gave me helpful comments. I am also indebted to two anonymous EL reviewers for their suggestions and constructive criticism. Remaining inadequacies are entirely my responsibility.

¹ Definite NPs of this type are also known as "pronominal epithets" (cf. Jackendoff (1972), Dubinsky and Hamilton (1998)). Following McCawley (1998) and Lasnik (1976, 1991), I call them anaphoric epithets. This name has an advantage of stressing the claim that epithets differ from pronouns in the way they obtain anaphoric function, as is argued in Section 3.
about all the guys at Pencey that he hated their guts, squeezing this big pimple on his chin. He didn’t even use his handkerchief. I don’t even think the bastard had a handkerchief, ...

(David Salinger *The Catcher in the Rye*: 38)

(2) Mr Zhao will be best remembered for his most conspicuous—and most nuanced—protest of all: his appearance in Tiananmen Square at the height of the protests in May 19th 1989. This was the first visit to the demonstrators by a top leader, and the last.

(*The Economist*, January 22nd–28th, 2005: 80)

In (1) the speaker describes Robert Ackley’s ill-mannered behavior, and for this reason, he calls Robert the bastard. In (2), the indefinite NP is used to provide the reason why Mr. Zhao will be best remembered: although he was a top leader, he visited the demonstrators in Tiananmen Square. These two types of nominals are both anaphoric to the topic discourse referent, but each has its own reason for being so.

The two types of anaphora have to do with Levinson’s (2000) pragmatic account of anaphoric devices. Levinson argues that his account applies both to sentential anaphora and to discourse anaphora. Here I discuss only the cases of discourse anaphora. He covers anaphoric devices in the forms of lexical NPs as well as pronouns, reflexives, and NP-gaps. I focus on lexical NPs, anaphoric epithets and reflexive indefinites in particular. Although my target is much narrower than Levinson’s, I show why his account as it stands fails to apply to these two types, and propose to adapt it in two ways, keeping his basic idea that appropriate use of anaphoric devices follows pragmatic principles which reduce the amount of information carried by NPs.

This article is organized as follows. In Section 2, I will review Levinson’s account in terms of what he calls “the general anaphora pattern,” and clarify why anaphoric epithets are exceptions to his account. I will extend his account to make a heuristic which accommodates a wider range of anaphoric devices along the lines of Grice’s (1975, 1978) Maxim of Quantity. In Section 3, I will review three previous studies of anaphoric epithets that are complementary to Levinson’s

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2 In what follows, I make it a rule that when the sex of the person referred to is irrelevant, I refer back to the speaker as *he*, and to the hearer as *she*. 
account. I will use the proposed heuristic to explain how epithets obtain anaphoric function from the contexts in which they are used. In Section 4, I will discuss indefinite NPs in anaphoric use, showing that the heuristic gives a natural account of the fact that indefinites may be used anaphorically in virtue of the contextual part-whole relations that they obtain. Section 5 concludes this article.


This section is made up of three parts. In 2.1, I give an outline of Levinson's general anaphora pattern. In 2.2, it is shown that the pattern is based on Levinson's "I-principle," which is developed from Grice's Maxim of Quantity. I introduce a set of related concepts for analyzing anaphoric devices, pointing out how Levinson's idea has been developed from the days of Grice's conversational maxims. In 2.3, I discuss two inadequacies of Levinson's account and present a model and heuristic pair for anaphoric devices, which is designed to overcome the inadequacies and apply to a wider range of data in a principled way.

2.1. The General Anaphora Pattern

Levinson (2000: Ch. 4) argues that lexical NPs, pronouns, and NP-gaps make what he calls "the general anaphora pattern." Consider the data in (3), taken from Levinson (2000: 268–269):

(3)  
  a. John came in and the man sat down.  
  b. John came in and he sat down.  
  c. John came in and __ sat down.  
  d. The ferry hit a rock. The ship capsized.  
  e. The ship capsized. The ferry hit a rock.

While *John* and *the man* in (3a) are preferred to make disjoint reference, *John* and *he* in (3b) are preferred to make coreference. In (3c), *John* and the NP-gap are required to make coreference. Similarly, *the ferry* and *the ship* in (3d) are easily read as being coreferential, but it is much harder to give the coreferential reading to the two in reverse order in (3e).

Levinson notes that *ship* is semantically more general than *ferry*, and pronouns are semantically more general and formally more reduced than lexical NPs; the more general in meaning and the shorter in form a given nominal becomes, the more likely it is that the hearer takes it to
be anaphoric to a referring expression previously given in the same discourse domain. In other words, anaphoric devices tend to be formed from nominals which are semantically more general and formally shorter than their possible antecedent expressions. According to Levinson, NP-gaps like the one in (3c) are the model of anaphoric devices, for they are the clearest cases in which two NP positions make a local coreference: he argues that NP-gaps are "at the extreme of semantic generality, with no intrinsic content features of their own" (p. 270) and formally, they are minimum, i.e. zero.

Levinson (2000: 269) argues that semantic generality, or more precisely, relative semantic generality "is the essential property of an anaphoric expression." I say "relative" because the degree of semantic generality of an anaphoric device is determined relative to the semantic specificity of its possible antecedent expression. It is generally true, however, that semantic generality receives a high score on what Halliday and Hasan (1976) call general nouns, for example, place, thing, matter, i.e. a type of nouns which have little lexical content and are akin to pronouns.3

Levinson (2000: 270) calls the scale of semantically reduced NPs in (4) the general anaphora pattern, and says that "a choice towards the right increases the likelihood of anaphoric reading."

(4) lexical NPs (specific → general) → pronouns → NP-gaps

Here I elaborate his original scale in such a way that in (4), lexical NPs are divided into two levels, lexical NPs whose meanings are specific and those whose meanings are general; the latter are more suitably used anaphorically than the former.

3 Bolinger (1972: 301–302) offers the following example, in which only the mammal is excluded from the anaphoric options:

(i) They brought in a capybara, but nobody took note of {*the mammal/the animal/the strange creature}.

To use the general anaphora pattern, one can account for the difference between mammal and animal by saying that compared to capybara, animal is closer to a general noun, and has a sufficient amount loss in semantic specificity, which mammal does not have. For this reason, the animal, but not the mammal, can be used in anaphoric reference to a capybara in (i). This style of account may hold when general nouns are used anaphorically, but not when evaluative expressions like strange creature are so used. This is the question that I address myself to in Section 3.
2.2. The I-Principle and Related Concepts

Levinson argues that the general anaphora pattern is based on “the I-principle,” where I stands for informativeness, a pragmatic principle which is adapted from Grice’s conversational Maxim of Quantity. The I-principle consists of two parts, which are cited from Levinson (2000: 114) and are simplified in (5):

(5) a. Speaker’s maxim of minimization: Produce the minimal linguistic information sufficient to achieve your communicational ends.

b. Recipient’s corollary: Amplify the informational content of the speaker’s utterance by finding the most specific interpretation, up to what you judge to be the speaker’s m-intended point, unless the speaker has broken the maxim of minimization by using a marked and prolix expression.

Levinson applies the I-principle to various phenomena which are roughly characterized as sharing “the property of maximizing the informational load by narrowing the interpretation to a specific subcase of what has been said (p. 118).”

Notice that Levinson does not use the I-principle in an across-the-board manner; instead, he adds a number of specialized versions to the principle, and applies them to specific cases. Here I introduce only two: (6a) is adapted from Levinson (1987=1998: 551–552), and (6b) from Levinson (2000: 115):

(6) a. Assume that stereotypical situations obtain between referents or events, unless this is inconsistent with what is taken for granted.

b. Avoid interpretations that multiply entities referred to; specifically, prefer coreferential readings of reduced NPs (pronouns or zeros).

To illustrate the specialized version in (6a), Levinson (2000: 117) uses the example with secretary in (7a), which is amplified to mean (7b) in line with our stereotypical image of secretaries:

(7) a. John said “Hello” to the secretary and then he smiled.

4 Following Grice’s idea, Levinson uses m-intention (for “meaning-intention”) to mean the kind of meaning that the speaker intends the hearer to recognize by his utterance.
b. ‘John said “Hello” to the female secretary and then John smiled.’

In (7a), the *he* in the second clause is interpreted to be anaphoric to *John*, because the speaker can use (6a) to communicate to the hearer what is left unsaid about the sex of the secretary.

To deal with anaphoric devices, the I-principle is specialized into (6b); it underlies the general anaphora pattern in which interpretive possibilities of a reduced NP are narrowed down to being anaphoric to the topic referent in the relevant discourse domain. In light of (6b), the speaker can use an NP with little meaning and the hearer can amplify the content of that NP to the point that she can identify the local coreference intended by him.

Here I give an outline of the relationship between Grice and Levinson. Levinson says that the I-principle is a development of Grice’s Maxim of Quantity in (8), which Grice (1975) proposes with the other Maxims of Quality, Relation, and Manner.

\[ (8) \]
\[ a. \quad \text{Make your contribution as informative as is required (for the current purposes of the exchange).} \]
\[ b. \quad \text{Do not make your contribution more informative than is required.} \]

Levinson’s project has been to reorganize Grice’s maxims and submaxims into higher-level principles, and analyze varieties of linguistic phenomena in terms of the interactions of such principles.\(^5\) The speaker’s maxim of minimization in (5a) is developed from the second submaxim of (8b). Levinson sets aside the first submaxim to make another principle of Q(uantity), but I will show in Section 3 that it serves to prepare the context in which NPs of a particular type qualify as anaphoric devices.

I illustrate one interaction of Levinson’s principles in relation to anaphoric devices. According to the general anaphora pattern, *the man* is richer in lexical content than *he*, so its use weighs in favor of dis-

\(^5\) Similar attempts have been made. For example, Horn (1984) reorganizes Grice’s maxims into two principles called Q(uantity) and R(elation), and relevance theorists propose to use just one principle of Relevance (cf. Sperber and Wilson (1995)). Since the purpose of this article is to extend a particular aspect of Levinson’s theory to account for discourse anaphora, however, comparison of these theories is beyond its scope.
joint reference. However, man is a typical general noun, which might lead one to expect that like he in (3b), the man can be used anaphorically in (3a). But this is not the case. Levinson (2000: 272) accounts for the difference between (3a) and (3b) by using his “M-principle” (for “Manner-principle”): If you use a marked form where there is a suitable unmarked form, you suggest a situation complementary to what would have been expressed by that unmarked form. In (3a), use of the man suggests a situation complementary to the coreference that use of he would have expressed, i.e. disjoint reference.

As shown by the above account, the I-principle has general applicability and comes into operation unless there are specific reasons not to observe the principle. In choosing between he and the man, the speaker gives priority to the M-principle over the I-principle, and he is used as a suitable anaphoric device. This kind of priority consideration will be remembered when we discuss reflexive indefinites in Section 4.

These considerations lead Levinson (2000: 399) to say that “principled exceptions are of course epithets, like the bastard, where a more prolix form that would otherwise encourage a disjoint reading is clearly warranted by the additional attitudinal information that can only be encoded in the fuller nominal.” Since Levinson takes NP-gaps to be the model of anaphoric devices, it is natural for him to base the general anaphora pattern on semantic generality and exclude anaphoric epithets as exceptions to this pattern, for they are not close to NP-gaps at all.

As I will argue in Section 3, “the additional attitudinal information” is the key to the use of epithets such as the one in (1), but Levinson is silent on why anaphoric function is linked to nominals expressing such information. I will give an answer to this question in terms of the part-whole relationship.

Another important concept of Levinson’s theory is the distinction between “generalized conversational implicatures” and “particularized conversational implicatures,” a distinction originally introduced by Grice (1975). Levinson (2000: 16) argues that his pragmatic principles, for example, the I-principle and its specialized versions, are intended to capture generalized conversational implicatures, where “generalized” means the default interpretation of an utterance that normally obtains “unless there are unusual contextual assumptions that defeat it.” He distinguishes these from “particularized conversational implicatures,” i.e. the interpretations of an utterance that obtain “only by virtue of specific contextual assumptions that would not invariably or even normally
obtain."

In line with the two kinds of conversational implicatures, Levinson (2000: 21-27) distinguishes between "utterance-type meaning" and "utterance-token meaning." The former is based on "general expectations about how language is normally used" and the latter on "the actual nonce or once-off inferences made in actual contexts by actual recipients with all of their rich particularities." He argues that cases of the utterance-type meaning include speech acts, presuppositions, conversational presequences, and so on. They are assumed, but not necessarily explicitly expressed, as stereotypical ways of utterance interpretations, and are helpful in making the most effective communication with the least effort. Here I am concerned with the utterance-type meaning, for the speech act and presupposition associated with NP reference belong to this type of meaning.

2.3. Toward a Pluralistic Model of Anaphoric Devices

To analyze lexical NPs in anaphoric use, I adopt Levinson's I-principle, but modify his specialized version in (6b) and the general anaphora pattern. Before I propose an alternative account of anaphoric devices, I make two related points where Levinson's account is inadequate, and in need of modification.

First, Levinson's conception of the I-principle-based anaphoric relationship is too narrow. Levinson confines himself to anaphoric relations that are simply derived from the semantic relation between two NPs, or two NP positions, and so his account is no longer valid for the anaphoric relations that are derived from the relation between an NP and the context in which it is used. It is clear that in Levinson's framework, the anaphoric function of nominals including pronouns and NP-gaps is directly and exclusively linked with the general anaphora pattern couched in terms of relative semantic generality, as stated in (9):

(9) The relative semantic generality of an NP is directly linked to that NP's suitability for an anaphoric device.

I am going to criticize the direct linkage of semantic generality and anaphoric function. I focus on the level of lexical NPs, and show that semantic generality is just one of the ways that the speaker chooses in making an anaphoric device out of a nominal expression. One major problem of the direct linkage in (9) is that it misses the fact that lexical NPs which are not semantically reduced can also be used anaphorically.

Second, Levinson applies the I-principle to the realms of discourse
anaphora only limitedly, and so it has not yet reached the position it deserves. When applied to anaphoric devices, the I-principle allows at least three types of manifestation. The first case has to do with the relative semantic generality of NPs. The less specific in meaning an NP becomes, the more likely it is for that NP to be used in line with the I-principle; the NP headed by a general noun is a good candidate for an anaphoric device. But this is not the only type of anaphoric device that is expected from the I-principle.

Levinson might argue that he has a theoretical reason to limit the application of the I-principle, or its specialized version in (6b), to discourse anaphora. Since his principles are intended to cover generalized conversational implicatures, he would say that if there are anaphoric devices that can only be interpreted through the particularities of their contexts, they should be analyzed in terms of particularized conversational implicatures rather than high-level generalizations like the I-principle.

Although I analyze lexical NPs in anaphoric use in relation to their contexts, I argue that their analysis still belongs to the scope of generalized, rather than particularized, conversational implicatures. This is because the contextual part-whole relations that I introduce in what follows have to do with the utterance-type meaning. Besides, indefinite NPs of the kind I discuss in Section 4 are what Grice (1975, 1978) and Levinson consider to be cases of generalized conversational implicature.

To accommodate the above points missed by the general anaphora pattern, I am going to provide an alternative to the specialized version in (6b), and make a pair of a new specialization of the I-principle and a model of anaphoric devices in which factors other than semantic generality can give rise to anaphoric devices.

To borrow a term from Reinhart and Reuland (1993), I claim that instead of semantic generality, the key factor for anaphoric function is referential defectiveness, or RD for short. Here RD is used as a superordinate concept of semantic generality, and is intended to cover situations in which the speaker uses an NP or NP position that has an insufficient amount of information for the hearer to identify the range of reference intended by him, thereby inviting her to identify it through a local coreference to another shared referring expression in the same context so as to make the intended range of reference shared by both sides.

But why the hearer is to read a referentially defective NP as being
locally coreferential in the context where it is just possible for her to do so (i.e., where it is also possible for her not to do so)? This question is all the more important for the non-obvious fact that nominals lacking identifiability can also be used anaphorically under certain pragmatic conditions, as is illustrated by indefinites like the one in (2). The I-principle gives a straight answer: local coreference is exactly the way for the hearer to find the most specific interpretation for a minimal or defective piece of referential information from the speaker. As Huang (2000: 216) points out, with local coreference, the hearer can reduce the number of discourse referents in a discourse domain. Moreover, she can also assume that the fewer the number of referents, the longer the speaker talks about the referents that have already appeared in it. Thus, the hearer knows more about particular referents shared in a domain so that she can enrich the information expressed only defectively.

I illustrate two more manifestations of the I-principle in the realms of anaphoric devices. One manifestation has to do with the discourse role given to an NP. In this case, a given NP obtains relative RD in virtue of the fact that it qualifies as a part of a larger environment. This applies to anaphoric epithets. The other manifestation comes in the conditions for identifiable reference, which take forms of the definiteness and indefiniteness of NPs. Indefinite reference lacks the identifiability that definite reference has, and in this sense, indefinite NPs are more referentially defective than definite NPs. This means that indefinites may obtain anaphoric function through their relative RD, and this applies to reflexive indefinites.

This is not just a reinterpretation of the general anaphora pattern. Since RD is a superordinate concept of semantic generality, it enables us to see that semantic generality is just one of the conditions for making an anaphoric device out of a given expression. If we find other conditions that give rise to relative RD for nominal expressions, then we may reasonably suspect that the expressions meeting such conditions follow the I-principle, and are appropriately used as anaphoric devices. Such conditions are prepared by speech acts of evaluation, and by description of a specific part of some referent identifiable to the hearer.

Instead of the direct linkage of semantic generality with anaphoric function, I propose a pluralistic model which allows several different ways for linking nominal expressions with anaphoric function through their relative RD. I call this the relative RD model, and represent it in
This model makes clear the linkage of relative RD assignment with anaphoric devices, but also shows that just as there are plural ways of relative RD assignment, so there are various forms of anaphoric devices. Relative RD comes either from the lexical and grammatical properties which individual nominals have, or from the roles assigned to each nominal in the context in which it is used. In either case, relative RD provides a nominal expression with anaphoric function. The former applies to Levinson’s general anaphora pattern. In the following sections, I argue that the latter applies to epithets and to reflexive indefinites.

To set the relative RD model to work, I propose to replace the specialized version in (6b) with the following heuristic for using anaphoric devices, called the part-whole heuristic:

\[(11)\]

\[\begin{array}{ccc}
\text{Relative RD assigned to nominals in discourse} & \text{Linkage} & \text{Devices for helping the hearer uniquely refer back to the discourse referent} \\
\hline
\text{Semantic and pragmatic types of relative RD assignment} & \text{Ways of linkage} & \text{Forms of devices} \\
\hline
\text{i. built-in RD in specific items} & \text{zeros, pronominals and reflexives} \\
\text{ii. semantic generality} & \text{general nouns} \\
\text{iii. contextual part-whole relations} & \text{epithets and indefinites} \\
\end{array}\]
can, then amplify the amount of referential information of the NP to the point where you make it a part of the utterance-type. Thanks to the part-whole heuristic, the speaker has only to express a part of his intended range of reference so as to help the hearer identify its whole range. This follows the I-principle in that it helps achieve effective communication in an economical way.

The speaker’s reduction is most important in (11). I argue that Grice’s Maxim of Quantity gives a guideline on how to reduce the amount of referential information of an NP to be used as an anaphoric device. To put it concretely, I account for anaphoric epithets and reflexive indefinites in terms of the generalized contextual part-whole relationship as it is stated in (11), details of which will be discussed in Sections 3 and 4. 

3. A Speech Act-based Account of Anaphoric Epithets

In this section, I show how anaphoric epithets fit the relative RD model in (10). I argue that although they do not follow the general anaphora pattern, they do qualify as being referentially defective with respect to the roles they are assigned in the contexts in which they are used.

This section is made up of two parts. In 3.1, I present referential properties of anaphoric epithets, and their relevance to speech acts. In 3.2, I clarify the utterance-type meaning of evaluative speech acts, and account for the anaphoric function of epithets in terms of the part-whole...

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6 Readers familiar with Levinson’s theory might think that I should use the I-principle, not with Grice’s Maxim of Quantity, but with Levinson’s “Q-principle” (Q for “Quantity”), which is summarized as follows: for a set of alternative expressions that contrast in meaning, use of a semantically weaker one implies the inapplicability of another semantically stronger one. Here I have two reasons to adopt the Maxim of Quantity. First, Levinson uses the Q-principle mainly when he accounts for scalar implicatures. To cite an example from Levinson (2000: 36), given all and some make a set of alternative expressions, use of Some of the boys came, by the Q-principle, implies ‘Not all of the boys came.’ Thus, the target phenomena of the Q-principle are different in nature from the contextual part-whole relations that I deal with here. Second, Grice’s Maxim of Quantity has two submaxims which are best suited to the discourse environments in which anaphoric epithets and reflexive indefinites are appropriately used.
3.1. Referential Properties of Anaphoric Epithets

I first review three previous studies. As Bolinger (1972), Declerck (1978), and Dubinsky and Hamilton (1998) illustrate, anaphoric epithets are used in the context of speech act of evaluation. Dubinsky and Hamilton (1998: 688) show this point by using the following contrast:

(12) a. It was said of John that the idiot lost a thousand dollars on slots.
    b. *It was said by John that the idiot lost a thousand dollars on slots.

(13) a. Speaking of John, the idiot is married to a genius.
    b. *According to John, the idiot is married to a genius.

The speaker uses said of or speaking of to introduce a referent which he evaluates in terms of an epithet. By contrast, said by and according to are used to introduce a person who performs evaluation, and so these phrases are used to keep the speaker from performing evaluation, thereby wrongly identifying the performer of the evaluation as the referent of the epithet.

Clearly, evaluation is a complex single speech act, including at least the following three components: (i) the individual who evaluates (usually the speaker) and the target referent that is evaluated, (ii) the evaluation that the speaker makes of that target referent, and (iii) the reason why the speaker makes such an evaluation. These components are so tightly organized that if one of them were absent, the evaluation speech act would be defective, and such a defective utterance is unacceptable.

First, Dubinsky and Hamilton (1998: 689) show that an anaphoric epithet is appropriately used if it follows what they call the “antilogophoricity” constraint in (14):

(14) An epithet must not be anteceded by an individual from whose perspective the attributive content of the epithet is evaluated.

Put differently, the referent of an epithet must be someone other than the individual who uses that epithet to perform an evaluation speech act. The antilogophoricity constraint is violated if the component in (i) above is absent, and so defectiveness of this kind results in unacceptability, as in (12b) and (13b).

Second, Bolinger (1972: 303) shows that nominals expressing evaluation, but not nominals expressing class-membership, are appropriately
used as anaphoric epithets, as shown in (15):

(15)  
   a. I told John of the danger, but {*the lineman/the idiot} paid no attention.
   b. Smith put his place up for sale, but I wouldn't have {*the house/the dump}.

Class-membership nominals like lineman serve to show a part of the relation between an individual as a member of a class and the class itself, but not a part of the relation between the speaker's evaluation and his speech act as a whole; unlike nominals like idiot, they lack the evaluation component in (ii). Without this component, an evaluation speech act is defective; this too results in the failure of coreference in the context of evaluation.

Third, Declerck (1978: 59) illustrates the relevance of the reason component in (iii) by the example in (16). (16B) makes a good answer to (16A), but (16B') does not:

(16)  
   A: Did John break any cups or plates in the kitchen?  
   B: Though the idiot broke a cup, he did not break any plates.
   B': Though he broke a cup, the idiot did not break any plates.

Declerck points out that the evaluation by an epithet has to be understood with the reason for that evaluation in the same domain. In (16B), it is reasonable to evaluate John as idiot because of his action of breaking a cup, but in (16B'), it is not reasonable to evaluate him in this way because of his action of not breaking any plates. Thus, in (16B'), the reason component in (iii) is absent, the evaluation speech act is defective, and the use of an epithet results in unnaturalness.7

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7 Declerck (1978) deals with epithets in subject position. He analyzes an epithet as an evaluative predicate predicated of the clause having that epithet in its subject position. For example, the sentence in (i-a) is paraphrased as (i-b), which is semantically equivalent to the sentence modified by a sentential adverb in (i-c):

(i)  
   a. The fool squandered his money.
   b. He was a fool to squander his money.
   c. Foolishly, he squandered his money.

He relates (i-a) to (i-b) in terms of subject-to-subject raising; what is originally the subject of the lower clause [PRO squandered his money] is raised to the subject of the higher clause [PRO was a fool to do so], then the two clauses are telescoped into one sentence as in (i-a). Putting aside the details of the raising, his analysis has an insight into the relation between an anaphoric epithet and the reason compo-
3.2. Utterance-type Meaning and Part-Whole Relationship

It is now clear that Dubinsky and Hamilton, Bolinger, and Declerck take into account the relevance of context to epithets, which is absent in Levinson’s account in terms of the general anaphora pattern. In a framework where the anaphoric possibility of a given nominal is determined directly by the semantic generality of that nominal, it may be possible to make a distinction of the anaphoric possibilities between a lexical NP and a pronoun, between a pronoun and a zero, or between a lexical NP whose meaning is specific and a lexical NP whose meaning is general, but it does not accommodate the fact that lexical NPs whose meanings are specific are also used anaphorically. I suggest how to link the contextual role of an NP with the anaphoric function of that NP.

An obvious question to ask at this point is: how do we determine which part of a given discourse domain is the part, and what is the whole of which it is a part, in the sense of the part-whole heuristic? The utterance-type meaning introduced in 2.2 is ready to answer this question. I propose to develop Levinson’s concept of “general expectations about how language is normally used” into the following understanding of utterance-types:

(17) An utterance-type is understood as a set of conditions for appropriate use of utterance-tokens of that type.

This statement makes clear the part-whole relation involved in anaphoric epithets. The discourse environments consisting of antilogophoricity, expression of evaluation, and reason for evaluation are not specific to particular utterances containing epithets, but are readily generalized as conditions for their appropriate use. These three are parts of the utterance-type meaning of evaluative speech acts. This means that an epithet is only a part of the speech act of evaluation, and fails to refer to the whole speech act by itself. When used in the context of evaluation, an epithet has a defective range of reference because it needs to be complemented by other evaluation-related components to identify the

\[\text{(ii) a. If your brother insults me again, I'll punch the bastard in the nose.}\]
\[\text{b. That John wasn't invited didn't bother the son of a bitch.}\]
whole speech act. Thus, speaker and hearer may reasonably rely on the heuristic in (11) to assign RD to epithets through the role they play in their context, which provides them with anaphoric function. The heuristic correctly captures the fact that epithets fall within the scope of the I-principle.

As an anonymous reviewer points out, epithets are used not only for blames, but also for praises or endearments, as in (18):

(18) Before he became a fully fledged professional filmmaker, Spielberg would spend a lot of time loitering around film sets. ... Furiously networking, the precocious kid "took meetings" with Charlton Heston, Cary Grant, Rock Hudson and director William Wyler ....

(Empire The Directors Collection, 2001: 11)

This passage describes the young Spielberg; his activity and his contact with established people in the field are the reason for the writer to call him "the precocious kid" in praise. The difference between blame and praise may be a matter of the utterance-token meaning, but the three components involved in evaluative utterances are a matter of the utterance-type meaning. They are constantly required for appropriate use of epithets irrespective of whether the utterance-token of an epithet makes a blame or a praise, or some other kind of evaluation.

In using an epithet, the cooperative speaker relies on Grice's Maxim of Quantity, more specifically, the first submaxim in (8a). He assigns an epithet the anaphoric function in two steps. First, he uses the first submaxim, and has to say all that is necessary. Because he intends the hearer to identify his evaluation speech act as a whole, the speaker has to use an epithet together with all other components that are required to complete the speech act. Second, using the discourse environment of evaluation prepared by the first sumaxim, he locates the epithet as a part of the whole speech act. Now the speaker may apply the part-whole heuristic to the epithet to use it anaphorically. In this case, he reduces the relative amount of information of the NP by increasing the amount of information of the discourse environment surrounding that NP.

I have so far adapted Levinson's account in two ways. First, I have replaced semantic generality with RD as the key factor for anaphoric function. Accordingly, I have replaced the specialized version of the I-principle in (6b) with the part-whole heuristic in (11). Second, RD is assigned to a given NP not only through the higher degree of semantic
generality it has in comparison to its antecedent expression, but also through the contextual part-whole relation of which it is a specific part. Seen from this perspective, epithets are no longer exceptions to the I-principle-based account of anaphoric devices.

It is now time to consider the relation between the I-principle and the part-whole heuristic. The I-principle is a higher-level and multifunctional principle which can be developed into specialized versions, one of which is the part-whole heuristic. Importantly, the heuristic also allows for several interpretations, an example of which is the part-whole relation involved in evaluative speech acts. Next, I am going to show that the heuristic is also valid for reflexive indefinites. The relevant part-whole relation is in the conditions for identifiable reference.8

4. The Contextual Origins of Anaphoric Indefinites

This section is divided into two parts. In 4.1, I argue that reflexive indefinites obtain their anaphoric function through the role they are assigned in the context in which they are used. The analysis of reflexive indefinites is slightly, but not trivially, different from that of anaphoric epithets. It is shown that the condition for their use is also a case of Grice’s Maxim of Quantity: they are used in accordance with the second submaxim of Quantity.

In 4.2, I discuss referential properties of reflexive indefinites in further detail. I compare them with other types of anaphoric indefinites so as to show the relevance of the part-whole relations to anaphoric relations.

4.1. The Maxim of Quantity and Reflexive Indefinites

Here I discuss the discourse environments of reflexive indefinites, and argue that their RD comes from the usage conditions for identifiable

8 In this article, I mainly show how the part-whole heuristic applies to anaphoric epithets and reflexive indefinites, but with one modification: it can apply to the general anaphora pattern too. In anaphoric epithets and reflexive indefinites, the anaphoric device is used to denote a part of the referent of its antecedent expression. In the case of the general anaphora pattern, on the other hand, the anaphoric device is used to denote a part of the lexical meaning of its antecedent; in (3d), ‘ship’ is a part of the meaning of ‘ferry,’ but not vice versa. Seen in this light, the specialized version in (6b) can be located not as being directly subject to the I-principle, but as being subject to the part-whole heuristic, or a further specialized version of it.
reference. Consider the following example:

(19) Anaphora: A Cross-linguistic Study, Yan Huang ... Written by a leading expert on anaphora, this book will be the standard point of reference for all those interested in this important topic in theoretical linguistics.

(Yan Huang Anaphora: backcover)

Indefinite NPs like a leading expert on anaphora in (19) are anaphoric in that they have antecedents in the same context in which they are used. Indefinite NPs used in this way tell us why the topic referent, i.e. antecedent, is introduced into the context in question. For example, Yan Huang is introduced into the context of (19), precisely because he is a leading expert on anaphora.

Grice (1978: 114) offers an example of indefinites of this type. Suppose that “it is generally known that New York and Boston were blacked out last night, and A asks B whether C saw a particular TV program last night,” then, he points out, B, who knows that C was in New York, can reply in at least three ways:

(20) No, {a. he was in a blacked-out city/b. he was in New York/c. he was in New York, which was blacked out}.

Grice says that B will prefer to use the reply in (20a) to imply “a more appropriate piece of information, namely, why C was prevented from seeing the program.” Here again, the indefinite NP is used to refer to a referent shared in the context, and at the same time, it is used to provide the hearer with the reason why the speaker refers to the referent in such and such a way. Grice himself, however, does not have much to say about the reason why indefinites are used in this way.

Reflexive indefinites express specific meanings, so their anaphoric function cannot be explained by the general anaphora pattern. Instead, they are assigned relative RD through the conditions for identifiable reference. Because they are indefinite, they have less identifiability than the referring expressions that they can take as antecedents. Having less identifiability means being more referentially defective and more general in the range of reference. This property of indefiniteness may give rise to a part-whole relation in the sense of (11), and so indefinites are assigned RD and qualify as anaphoric devices when they fit the heuristic.

The relative RD of reflexive indefinites is best understood when they are compared with other forms of NPs that are used for identifiable reference. Recall the anaphora data in (3). In (3d), for example, besides
the semantic generality, *the ship* meets the following three conditions for identifiable reference so that it helps the hearer identify its intended referent, i.e. the local antecedent *the ferry* (cf. Hawkins (1991), Lyons (1999)):

(21) a. There is a referent or antecedent to be identified by the hearer in the relevant discourse domain.

b. The identifiability of the referent is marked by the definiteness of the NP used to refer to it.

c. The head noun of the NP describes an attribute of the identifiable referent.

The three conditions make an utterance-type for identifiable reference. However, the condition for attribute description in (21c) can be suppressed, for pronouns like *he* in (3b) have little descriptive content; instead, they have high semantic generality. By contrast, indefinites may have (21a) and express (21c), but lack (21b). Because they express only a part of the utterance-type of identifiable reference, they may qualify as anaphoric devices.

Taking advantage of the lack of identifiability, the speaker uses indefinites of this type to send to the hearer an additional message that could not be sent as successfully if he were to use an NP of another form. They serve to add the sense of generalization to their antecedents. He refers to a particular referent (e.g. New York), by using an NP which fails to identify that referent (e.g. *a blacked-out city*), thereby inviting her to generalize that his reference is not limited to a particular referent, but applies to a class of referents, each of which is equally described by the expression of his choice. She may reasonably take the generalization that applies to a particular referent as a reason on which to base her further assumptions about that referent. For example, the hearer of (20a) may infer that since it is generally the case that you cannot see TV programs in a blacked-out city, C could not see a TV program in New York last night. Her assumption is based on the reasoning from a generalization to a particular example, which is motivated by the speaker's use of *a blacked-out city*. Thus, in using a reflexive indefinite, the speaker omits from his reference identifiability to the hearer, which is the reason for the hearer's reasoning based on generalization.

Now we have to discuss the relation between reflexive indefinites and the I-principle, especially the Recipient's corollary in (5b). According to (5b), when the speaker uses a marked form, the hearer may take it to
be a sign that he has broken the conversational maxim in some way. Indefinite NPs are marked anaphoric devices, for definite NPs having identifiability in them are unmarked forms. Does the speaker who uses an indefinite NP anaphorically break a conversational maxim, and try to be uncooperative with the hearer? No.

Here again we have the priority consideration for the I-principle. Reflexive indefinites may violate the markedness condition stated in the unless-clause in (5b), but unmarked referring expressions having identifiability, if used, would involve an even worse violation of the speaker's intended message. Thanks to their identifiability, referring expressions like New York or New York, which was blacked out in (20) apply to a particular referent alone and fail to lead to the generalization intended by the speaker as economically and effectively as the indefinite a blacked-out city.

Thus, the speaker has good reason to cancel the unless-clause in (5b), not to use unmarked expressions, and to use the marked indefinite NP. He reduces the amount of information of the NP by using Grice's second submaxim of Quantity in (6b). He assumes the cooperative hearer to work out the indefinite NP in this way: In the context in which speaker and hearer definitely share the identifiability of a topic referent, the speaker can use the second submaxim of Quantity to communicate to the hearer that the identifiability can be taken for granted, and need not be expressed. Moreover, guided by the I-principle, he produces an NP with little identifiability for the referent, which the hearer amplifies in such a way as to identify not only that referent, but also a generalization about it and the reason why he talks about it in such and such a way.

The role of anaphoric epithets forms a mirror image of that of reflexive indefinites. In the former case, the speaker creates an additional context to give the reason why he uses a particular epithet to call the topic referent in the context. In the latter case, by contrast, the speaker uses an indefinite NP to give the reason why he talks about the topic referent in this way. Reflexive indefinites express reasons by themselves, but anaphoric epithets require other expressions to express reasons for them.

4.2. Referential Properties of Anaphoric Indefinites

In this subsection, in light of the part-whole heuristic in (11), I clarify similarities and differences among reflexive indefinites, indefinites
denoting body-parts, and what Prince (1992) calls the inferable use of indefinites.

Hawkins (1991: 418) argues that unless otherwise specified, *a leg* in (22a) is taken to refer to Fred’s body part.

(22)  
(a) Fred lost a leg in the war.
(b) Fred lost a leg in the war—not his own, he was the camp doctor.

But this coreferential relation is cancelable, as is shown by the non-contradictory utterance in (22b), where Fred is assumed to be a camp doctor who amputates human legs.

Body-part indefinites like *a leg* in (22a) characteristically denote body-parts which are not unique in the body, and so their use presupposes that a person has at least two of the parts denoted. For example, in *I broke a finger yesterday*, Grice (1975: 56) says that *a finger* is taken to denote one of the fingers that the subject has. Hawkins (1991: 418) says that in *Fred lost a nose in the war*, on the other hand, *a nose* does not denote Fred’s body part, and the sentence is only taken to mean that Fred is a camp doctor who lost someone else’s nose. Here *a nose* suggests that Fred has more than one nose, which are of course different from his own nose.

Reflexive indefinites parallel body-part indefinites in three ways: (i) in both types, the indefinite NP serves to denote a particular part: body-part indefinites like *a leg* in (22a) denote a concrete part of the person referred to by the subject, and similarly, reflexive indefinites like *a top leader* in (2) denote an abstract part (attribute) of the referent identified as the topic in the relevant discourse domain; (ii) in both types, the indefinite NP is taken to be coreferential with, or anaphoric to, the topic referring expression in virtue of the part-whole relation that holds between the two; (iii) in both types, the coreferential reading is a matter of conversational implicature rather than a matter of the rule stipulated in grammar.

First, I discuss the above referential properties in (i) and (ii). Like body-part indefinites, reflexive indefinites are used to denote a part of something larger. Since uncountable nouns do not denote a separate part of something larger (instead, they denote that something larger by themselves), they are not used as reflexive indefinites. Consider the following example:

(23) Dr. Enfield has published a book about Roger Bacon’s philosophy. Written in precise language, his book helps us
understand *(a field of/a branch of) study devoted to the Middle Ages.

In (23), when combined with countable nouns such as a field of or a branch of, the complex NP can be used to refer back to a specific part of the referent of the preceding Roger Bacon's philosophy; otherwise, the NP headed by the uncountable noun study fails to make the part-whole relationship.

The referential property in (iii) has to do with examples like (22b), where the speaker adds a negative phrase to suggest that the hearer cannot adopt the heuristic in (11) in this case.

When speaker and hearer cooperate along the lines of (11), they can use an indefinite NP anaphorically. However, indefinite NPs do not have this function themselves. Thus, when the mode of cooperation between speaker and hearer goes otherwise, the range of indefinite reference changes accordingly. Gundel et al. (1993: 296–297) use the following excerpt from a newspaper article to show that the speaker can add a negative phrase so as to stop the hearer to amplify the reference of an indefinite NP anaphorically, as in not Mr. Becchina to a Basel dealer in (24):

(24) But forged provenance papers still did not mean that the kouros was fake. ... The Getty decided that the fake documents were not reason enough to ask Mr. Becchina, the Basel dealer who had sold the kouros, to take back the sculpture. (Attempts by The Times to reach Mr. Becchina were unsuccessful.) Then last April, an independent scholar in London, Jeffrey Spier, was shown a photograph of a fake torso of a kouros, belonging to a Basel dealer (not Mr. Becchina), that looked similar to the Getty’s sculpture. [The New York Times, 4 August 1991, 2: 24]

Gundel et al. note that in (24), the indefinite NP in question may also be amplified to suggest that Jeffrey Spier was unable to identify the dealer as Mr. Becchina. Thus, the reference of an indefinite NP may be amplified in several different ways, a fact showing that the reflexive use too is a matter of conversational implicature rather than a matter of grammatical rule.9

9 My account of anaphoric indefinites is similar to that of Gundel et al.’s (1993) in that both adopt Grice’s Maxim of Quantity. Gundel et al., however, use the first submaxim to analyze the referential properties of anaphoric indefinites.
Reflexive indefinites also have properties in common with what Prince (1992) calls the "inferable" use of indefinites. Prince (1992: 306–307) offers the following contrast to show that indefinite singulars such as a page in (25) are used to denote specific parts of the referent of the preceding NP:

(25) I picked up that book I bought and {a page/ a cockroach} fell out.

In (25), a page is taken anaphorically to mean ‘a page from the book just mentioned.’ On the other hand, a cockroach does not have such an anaphoric sense. It simply introduces a new referent into the discourse. Prince calls indefinites of the former type the inferable use, which obtains in the following type of context.

First, the speaker refers to a composite referent consisting of two or more elements. Second, he introduces an indefinite NP to denote one element of the composite without expressing that composite. This is true of the relation between a page and that book, but not of that between a cockroach and that book in (25): a book consists of a composite of pages, but a cockroach is not an element of this composite.

In (25), the hearer can infer the part-whole relation involved in a page and that book; without a page, that book is defective, and a page itself too is defective in reference to the whole of that book. Because the part-whole relation is left to the hearer's inference, Prince calls indefinites of this type "inferables."

Takeda and Ohara (2002: 39) make a similar argument with respect to the indefinite NPs in (26). They note that it is unclear whether a boy in (26a) refers to a member of the group referred to by some boys in the preceding sentence, but a student in (26b) strongly suggests that it refers back to a member of the group referred to by some students in the preceding sentence.

(26) a. Some boys were walking along the street, and a boy was heading for the station.

b. There were some students waiting at the bus stop. A student came up to me and asked me to give him some money.

They point out that in (26a), the first sentence and the second sentence describe different directions and there is nothing to suggest that the second sentence is included in the first one. On the other hand, in (26b) the first there-sentence is used to set a scene, which serves to suggest that the second sentence describes a part of that scene. Thus, a student
may be taken to refer back to a member of some students.

These facts show the nature of part-whole relations involved in inferable indefinites. Like reflexive indefinites, inferable indefinites are assigned anaphoric function in virtue of the fact that they do not suffice to denote the whole of the referent that is talked about in the relevant discourse domain. However, while the part-whole relations of reflexive indefinites as well as anaphoric epithets are based on their utterance-type meanings, and hence belong to the heuristic in (11), those of inferable indefinites are based on the composite nature of their referents.

Reflexive indefinites and inferable indefinites differ in two specific ways. First, inferable indefinites denote concrete elements of a composite, but reflexive denote abstract attributes of an individual. Second, reflexive indefinites are used with the sense of generalization, but inferable indefinites are not.

Reflexive indefinites characteristically denote an attribute of the topic referent without expressing that referent, and their range of reference may be maximally extended to a generic class named by that attribute. This is because an attribute of an individual may be understood both internally and externally to that individual. Internally, an attribute is a part of the individual, and so we say that Mr. Zhao, for example, has the attribute of being a top leader. Externally, on the other hand, an attribute serves to define the individual having that attribute as a member of the class of individuals each of which has the same attribute. In this sense, we say that Mr. Zhao is one of the top leaders. When the class in question has a large range of reference as in (2), the speaker helps the hearer see Mr. Zhao as one instance of the generic class denoted by a top leader.

As an anonymous reviewer points out, there is a question of how Levinson-style principles can deal with indefinite singulars in generic use. Although indefinite singulars in generic use have their own properties, here I take them to be a subcase of indefinite singulars that carry the sense of generalization, for both involve the hearer's inference that what applies to one referent may apply to a class of referents of which that referent is a member (cf. Nunberg and Pan (1975), Burton-Roberts (1976)). Importantly, the hearer relies on the I-principle to reason about the generalization sense of indefinites. She amplifies the reduced amount of referential information of the singular NP to derive a specific generalization, on which she can rely unless there are contextual factors that block it. In (2), taking a top leader as denoting an internal part
of Mr. Zhao provides the indefinite NP with anaphoric function, and taking it as denoting an external class of which he was a member gives rise to the generalization sense; by combining these two kinds of reference, the hearer can further amplify the amount of information from the speaker.

On the other hand, inferable indefinites denote a concrete element of the topic referent without expressing this referent, which is composite in nature. Unlike an attribute of an individual, an element of a composite may be understood only internally to that composite. For example, a page will not help define the class of books to which the book with that page should belong. Inferable indefinites are not used with a generalization sense, because reference to an element of a composite cannot have a larger range of reference than the composite itself. In this respect, body-part indefinites are closer to inferable indefinites; they lack the generalization sense, and a body is a composite of many body-parts.

Part-whole relations allow for a number of different types: that in evaluative speech acts, that in identifiable reference, that in composite referents, and so on. These are not homogeneous; the first two types are based on the utterance-type meanings, but the third type is based on our world knowledge about composites. The heuristic in (11) covers the first two; thanks to their utterance-type meanings, they accompany characteristic discourse environments such as antilogophoricity or generalization, which are absent in the third type of inferable indefinites. Although much remains to be said about inferable indefinites, here I can only note that they are to be analyzed along the lines of so-called bridging reference (cf. Levinson (2000: 126–127), Matsui (2000)).

10 It remains to be seen whether body-part indefinites belong to the world knowledge-based part-whole relation or to the utterance-type-based part-whole relation. One might argue that they have to do more with the utterance-type, or more precisely, the clause-type than with the world knowledge, for they are similar to reflexives such as the one in *Sue straightened herself* and to anaphoric possessive NPs such as the one in *The man blinked his eyes*. In both cases, the anaphoric device denotes the subject’s body-part. I am close in spirit to Morita (2003) in thinking that some of the anaphoric relations are reduced to part-whole relations, but here I go no further than to say that body-part indefinites lie at the interface of sentential anaphora and discourse anaphora.
5. Conclusion

In this article, I discussed two marked types of anaphoric devices in English. The analysis has two implications. The first has to do with the future direction a Levinson-style account should take in order to provide useful tools for grammatical analysis. The second has to do with the nature of anaphoric devices.

First, my analysis basically builds on Levinson’s (2000) account in terms of the I-principle, but I also adopt Grice’s Maxim of Quantity, which consists of two submaxims. The two have contrastive definitions which underlie the mirror image of anaphoric epithets and reflexive indefinites. This shows that in order to capture in detail the link between what Levinson calls the utterance-type meaning and grammatical devices to express it, highly generalized pragmatic principles like Levinson’s I-principle need to be supplemented by conversational maxims which are as finely ramified, if complex, as Grice’s submaxims.

Second, I argued that relative RD is essential to anaphoric devices, and that the anaphoric possibilities of a given NP are best captured in terms of the pluralistic model in (10) where anaphoric function comes not only from specific items which have built-in RD, but also from the interaction between NPs and the contexts in which they are used. The former applies to pronouns, NP-gaps, and anaphoric NPs headed by general nouns, and the latter to anaphoric epithets and reflexive indefinites. I showed that contextual part-whole relations obtain at the level of the utterance-type meaning, as they are formulated in (11), and that part-whole relations of this kind are responsible for the RD of the latter type of anaphoric devices. I also applied part-whole relations to the analysis of anaphoric indefinites, and explained the similarities and differences among reflexive indefinites, body-part indefinites, and inferable indefinites.

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