

# Two subtypes of M-implicature: A study with special reference to Modern Greek\*

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## Abstract

The neo-Gricean pragmatic M-principle (Levinson 1987a, 1991, 2000 and Huang 2000, 2007) operates in terms of alternates that contrast in form. More specifically, the M-principle predicts that “marked or prolix anaphoric expressions will tend to pick up the complement of the stereotypical extensions that would have been suggested by the use of the corresponding unmarked forms” (Levinson 2000: 38). When it comes to anaphora, the M-principle predicts that, given an anaphoric M-scale  $\{x, y\}$ , the use of the marked  $y$  instead of the unmarked  $x$  will M-implicate a contrast either in terms of reference or in terms of contrastiveness and/or logophoricity (Levinson 2000, Huang 2000, 2007). Based on a study in Modern Greek anaphora, it will be argued that these two subtypes of M-implicatures (in reference and in contrastiveness/logophoricity) interact systematically in a hierarchical manner. Therefore, a hierarchical resolution schema will be proposed, according to which M-implicatures in reference are the first to be calculated. If, on the other hand, there is no contrast in reference, despite the use of a prolix expression, then an M-implicature in terms of contrastiveness and/or logophoricity is generated.

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## Introduction

Conversational implicature is one of the most fundamental notions in pragmatic theory and constitutes the basis for the development of the neo-Gricean theories. The notion of implicature was introduced by Grice in the William James lectures delivered at Harvard back in 1967. Grice develops the theory of conversational implicature based on the fact that speakers intend meanings which are not formally (linguistically) coded. As Levinson (1983: 97) remarks, the notion of conversational implicature gives an explanation for this, as it gives ‘some explicit account of how it is possible to mean ...more than what is actually said (i.e. more than what is literally expressed by the conventional sense of the linguistic expressions uttered)’. Since the inception of the original Gricean theory, there have been many developments of the original Gricean concepts. For the purposes of this study, I will focus on the neo-Gricean pragmatic theory as introduced and developed by Levinson (1987a, 1987b, 1991, 2000), Horn (1984, 1988, 1989) and Huang (1991, 1994, 2000, 2004, 2007) and more precisely on the neo-Gricean M(anner)-principle. More specifically, based on the examination of certain data of Modern Greek NP-anaphora it will be argued that there are two subtypes of M-implicatures (in reference and in contrastiveness/logophoricity) which interact systematically in a hierarchical manner.

## The Levinsonian neo-Gricean pragmatic principles

Levinson (1987a, 1991, 2000), proposed that the original Gricean theory<sup>1</sup> should be reduced to three basic communicative principles namely the Q- (Quantity)<sup>2</sup>, I- (Informativeness)<sup>3</sup> and M- (Manner) principles. Each of these principles provides the speaker with a maxim and the hearer with the correspondent corollary, which should

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<sup>1</sup> The original Gricean theory of meaning is built upon the notion of conversational implicature. The theory of conversational implicature includes an overarching principle, which Grice dubs the co-operative principle, plus a handful of conversational maxims and sub-maxims. According to Grice, the maxims along with the co-operative principle regulate efficient language use in communication (for more see Grice 1989).

<sup>2</sup> The Q-Principle

*Speaker's Maxim:*

Do not provide a statement that is informationally weaker than your knowledge of the world allows, unless providing a stronger statement would contravene the I-principle.

*Recipient's Corollary:*

Take it that the speaker made the strongest statement consistent with what he knows (Levinson 1987a: 401).

<sup>3</sup> The I-Principle

*Speaker's Maxim: The Maxim of Minimization.*

‘Say as little as necessary’, i.e. produce the minimal linguistic information sufficient to achieve your communicational ends (bearing the Q-principle in mind).

*Recipient's Corollary: The Enrichment Rule.*

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 (Levinson 1987a: 402).

be followed within communication. For the purposes of our analysis, we will mainly focus on the M-principle leaving thus aside the Q-and I-principles. The M-principle is defined as follows:

M-Principle

*Speaker's Maxim:*

Indicate an abnormal, non-stereotypical situation by using marked expressions that contrast with those you would use to describe the corresponding normal, stereotypical situation.

*Recipient's Corollary:*

What is said in an abnormal way, indicates an abnormal situation, or marked messages indicate marked situations, specifically: When *S* has said "p" containing marked expression *M*, and there is an unmarked alternate expression *U* with the same denotation *D* which the speaker might have employed in the same sentence-frame instead, then where *U* would have I-implicated the stereotypical or more specific subset *d* of *D*, the marked expression *M* will implicate the complement of the denotation *d*, namely *d'* of *D*.

It is important to note that the M-principle operates in terms of alternates that contrast in form and not in semantic content. The main tenet of the M-principle is that the use of a marked<sup>4</sup> expression will implicate a marked message. In the opposite way, marked expressions should be avoided if no marked message is intended. So, for instance in a set {*x*, *y*}, where *y* is more prolix than *x*, the use of *y* will M-implicate the complement of the interpretation associated with the use of *x*. The dictum of the M-principle has an intuitive basis, since there must be a reason for choosing a marked expression where there is a choice for an unmarked one. In effect, the question that naturally comes up is what happens when a marked expression is used instead of an unmarked one?

M-implicatures are generated by M-scales which are defined as follows:

M-scale: {*x*, *y*}

$y \rightarrow M \sim x$

By way of illustration, consider the following example of M-implicatures.

- (1) O Janis stamatiso to aftokinito  
The John stopped the car  
'John stopped the car.'  
+> John stopped the car in the normal way

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<sup>4</sup> The terms 'marked' and 'unmarked' are used by Levinson in the sense of normal/abnormal. This sense of 'markedness' is adopted in this work. For a discussion on the different senses of 'markedness' and the possibility of doing away with it see Haspelmath (2006).

- (2) O Janis ekane to aftokinito na stamatisi  
The John made the car to stop  
'John caused the car to stop.'  
+> John stopped the car in an unusual way

In example (1), where the speaker uses a less prolix expression (stopped the car), s/he also invites an unmarked interpretation. By contrast, in (2), the choice of a more marked expression (caused the car to stop) indicates that the speaker wants at least to avoid the interpretation associated with the use of the unmarked expression. Therefore, in that case the use of a more marked expression conveys a more marked interpretation. This marked interpretation is the direct outcome of the application of the M-principle: Given the M-scale {*stop*, *cause to stop*} the use of the more prolix expression *cause to stop* will tend to M-implicate that the interpretation associated with the use of the less prolix one does not hold (for more on M-implicatures see Huang 1991, 1994, 2000, 2007, Horn 2004).

## A neo-Gricean pragmatic theory of anaphora

So far, the neo-Gricean pragmatic principles have been presented as an independent framework. In a later stage, these principles have been employed for the interpretation of a widely researched phenomenon i.e. the phenomenon of anaphora. The neo-Gricean pragmatic approach to anaphora has been mainly advocated in the works of Levinson (1987a, 1991, 1998, 2000) and Huang (1991, 1994, 1995, 1996, 2000, 2001a, 2001b, 2002, 2003, 2004, 2007). The more recent neo-Gricean apparatus for the interpretation of anaphora is proposed by Huang (2007). According to it, the interpretation of NP-anaphora can follow from the interaction of the three neo-Gricean pragmatic principles in the following way:

Huang's revised neo-Gricean pragmatic apparatus for anaphora:

(a) Interpretation Principles

- i) The use of an anaphoric expression  $x$  I-implicates a local co-referential interpretation unless (ii) or (iii):
- ii) There is an anaphoric Q-scale  $\langle x, y \rangle$ , in which case the use of  $y$  Q-implicates the complement of the I-implicature associated with the use of  $x$ , in terms of reference.
- iii) There is an anaphoric M-scale  $\{x, y\}$ , in which case the use of  $y$  M-implicates the complement of the I-implicature associated with the use of  $x$ , in terms of either reference or expectedness.

(b) Consistency Constraints

Any interpretation implicated by (a) is subject to the requirement of consistency with:

- i) The Disjoint Reference Presumption.
- ii) Information saliency, so that
  - a) implicatures due to matrix constructions may take precedence over implicatures due to subordinate constructions, and
  - b) implicatures of co-reference may be preferred according to the saliency of antecedent in line with the following hierarchy: topic > subject > object, etc.; and
- iii) General implicature constraints, namely,
  - c) background assumptions,
  - d) contextual factors
  - e) meaning<sub>nn</sub>, and
  - f) semantic entailments.

### The case of Modern Greek

The neo-Gricean pragmatic apparatus can also account for the interpretation of NP-anaphora in Modern Greek as shown in Chiou (2007). In the remainder of the discussion, I will focus on the case of the M-implicatures with specific reference to Modern Greek<sup>5</sup>.

At this point, I would like to remind that Modern Greek is a typical pro-drop language and that as a result, it drops the overt subjects of the clauses. As a consequence, in an unmarked context, finite clauses in Modern Greek appear with a phonetically null subject as illustrated in the following example:

- (3) O Janis<sub>i</sub> theli Ø<sub>i</sub> na fighi.  
the John wants (he) to go  
'John wants to go.'

Given the revised neo-Gricean pragmatics apparatus, the interpretation of the null pronoun will follow directly from the I-principle. However, the pro-drop effect is just a general tendency, which means that an overt pronoun form can also occur instead of the null one. This is illustrated in (4) below.

- (4) O Janis<sub>i</sub> theli aftos<sub>j</sub> na fighi.  
the John wants he to go  
'John wants him to go.'

In contexts as those in (3) and (4) above, the zero and the overt pronoun form a typical M-scale {Ø, *pronoun*}, such that the use of the more prolix pronoun *aftos*, instead of the less prolix null pronoun, will M-implicate the complement of the interpretation

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<sup>5</sup> Note that the examples used for the purposes of our analysis are based on intuitive data, which are crosschecked with a handful of Modern Greek native speakers.

associated with the use of the null pronoun, i.e. disjoint interpretation. By contrast, the use of the unmarked null pronoun shows the intention of the speaker to avoid such a disjoint interpretation. It becomes fairly clear then that, in contexts like these, the marked message which is promoted by the use of a more prolix pronoun is a marked message in terms of reference.

The picture, however, is not so clear since the use of a more prolix form does not always result in change of reference<sup>6</sup>. Consider the following pair of examples:

- (5) O Janis<sub>i</sub> dhen katalave oti Ø<sub>i</sub> kerdhise to laxio.  
 the John not realized that (he) won the lottery  
 'John didn't realize that he had won the lottery.'
- (6) O Janis<sub>i</sub> dhen katalave oti aftos<sub>i</sub> kerdhise to laxio  
 the John not realized that he won the lottery  
 'John didn't realize that he had won the lottery.'
- (7) O Janis<sub>i</sub> nomizi oti Ø<sub>i</sub> ine o kaliteros mathitis  
 the John thinks that (he) is the best student  
 'John thinks he is the best student.'
- (8) O Janis<sub>i</sub> nomizi oti o idhios<sub>i</sub> ine o kaliteros mathitis  
 the John thinks that the same self is the best student  
 'John thinks he himself is the best student.'

Indeed, the use of more prolix anaphoric expressions in examples (5)-(6) and (7)-(8) does not seem to trigger M-implicatures of disjoint reference as it is otherwise predicted by the M-principle.

Is the M-implicature therefore cancelled in contexts like these? The answer is, not at all. Since language is not redundant in such a way, there must be a difference between the use of the more prolix anaphoric expressions and the null pronoun. In other words, the overt pronoun *aftos* in (6) and the anaphor *o idhios* in (8) must contrast in some way with the null pronoun. I argue that in these contexts there is a marked message in terms of emphaticness and contrastiveness when the full pronoun *aftos* is used, and in terms of logophoricity when the anaphor *o idhios* is used.

What I observe here is some sort of unexpectedness (Edmondson & Plank 1978, Huang 2000, Levinson 2000); that is, interpretations which are 'contrary-to-expectation' (the term used by Levinson 2000: 333) and seem to be problematic for a neo-Gricean pragmatic analysis. However, this is not the case. As Huang (2000: 225) notes, 'this unexpectedness may turn out to be logophoricity, emphaticness/contrastiveness or something yet to be discovered'. In any case, these contrary-to-expectation interpretations can be accounted for in terms of the systematic interaction of the neo-Gricean pragmatic principles, as I will illustrate further down.

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<sup>6</sup> The indexation in example (6) indicates the most preferred reading i.e. the default interpretation. The full pronoun can also have an independent interpretation as well, which however, is not the most preferred one in this context.

### *Emphaticness/contrastiveness*

Modern Greek does not codify emphaticness/contrastiveness with purpose-specific pronouns. Emphaticness/contrastiveness is mainly expressed by the use of the anaphor *o idhios*, the full personal pronoun and in some contexts the reflexive *o eaftos mu*; all these cases are accompanied by contrastive stress. Baker (1995) points out that the use of an emphatic is subject to two conditions, namely, contrastiveness and relative discourse prominence. Contrastiveness condition: Emphatics are appropriate only in contexts in which emphasis or contrast is desired and Relative discourse prominence condition: Emphatics can only be used to mark a character in a sentence or discourse who is relatively more prominent or central than other characters (Baker 1995: 77, 80).

Let us pick a typical case of an emphatic use of *o idhios* in Modern Greek.

- (9) O Janis<sub>i</sub> lei oti o idhios<sub>i</sub> ine o kaliteros mathitis  
the John says that the same self is the best student  
'John says he himself is the best student.'

It is fairly clear from this example that the use of *o idhios* in these contexts satisfies both conditions; more specifically, *o idhios* marks contrastive or emphatic content which is also accompanied by a natural negative gloss of the sort 'and not anyone else'. What is more, *o idhios* stresses the prominence of the internal protagonist of the sentence in relation to the speaker.

In distributions like (9), the use of *o idhios* leads to a contrary-to-stereotype emphatic/contrastive interpretation, since it is used instead of the unmarked zero pronoun. In this particular case, the use of a zero pronoun would invite a stereotypical co-referential interpretation, which is natural and non-emphatic. In contrast, choice of the marked anaphor *o idhios* will promote a marked interpretation in terms of emphasis and contrast, contrary to the stereotypical interpretation (the non-emphatic one) which would have been triggered by the unmarked zero pronoun. The use of *o idhios* for emphaticness/contrastiveness is pragmatically motivated, and it is subject to the M-principle.

### *Logophoricity*

Logophoricity and the use of logophoric pronouns were initially observed in a number of African languages such as Ewe, Dogon, Tuburi, Aghem and so on (see Huang 2000 for a variety of examples). In these languages there is a separate paradigm of logophoric pronouns, i.e. a class of pronouns dedicated to the encoding of logophoric interpretations. Nevertheless, apart from the purpose-specific logophoric pronouns, reflexives can be used logophorically under certain conditions (see Culy 1994, 1997, Huang 1991, 1994, 2000, Sells 1987, Zribi-Hertz 1989).

According to Culy (1997: 845), "logophoric pronouns are usually described as pronouns that are used to refer to the person whose speech, thoughts, or feelings are reported or reflected in a given linguistic context". This 'person' is also referred to as

the ‘internal protagonist’ (Huang 2000) or the ‘minimal subject of consciousness’ (Zribi-Hertz 1989). In particular, Zribi-Hertz (1989) identifies the subject of consciousness with Kuno’s (1987) sense of logophoricity as “a semantic property assigned to a referent whose thoughts or feelings, optionally expressed in speech, are conveyed by a portion of the discourse” (Zribi-Hertz 1989: 711). Logophoricity is frequently related with the notion of ‘point of view’, yet Culy (1997) claims that the notion of logophoricity is rather distinct from that of ‘point of view’. More precisely, Culy points out that “morphologically distinct logophoric pronouns are grammatically licensed in indirect discourse...and only secondarily indicate point of view” (Culy 1997: 846). In a similar fashion, ‘indirect reflexives’ (reflexives which can be used logophorically) “can express point of view if they do not have grammatically determined antecedents” (Culy 1997: 856).

As Kuno (1987) and Kuno & Kaburaki (1977) note, the contrast between a pronoun and an anaphor, where there is a free choice, is semantic/pragmatic in nature and it is associated with the notion of ‘point of view’. This seems to be the case with Modern Greek *o idhios* when it occurs in embedded subject positions instead of a zero pronoun as in (12) below.

- (10) O Janis<sub>i</sub> pistevi oti Ø<sub>i</sub> / o idhios<sub>i</sub> ine o kaliteros mathitis  
 the John believes that (he) /the same self is the best student  
 ‘John believes that he / himself is the best student.’

The use of *o idhios*, apart from emphaticness/contrastiveness, also encodes logophoricity in the sense of Kuno (1987) and Kuno & Kaburaki (1977). The logophoric interpretation of the sentence can be analyzed as follows: When the null pronoun is used, the belief that *John* is the best student is expressed by the speaker. In other words, the speaker states his own view about the protagonist of the sentence who is *John*. By contrast, when *o idhios* is used, the sentence conveys a more logophoric interpretation in the sense that the internal protagonist’s point of view is also expressed. As we understand it, the use of the anaphor *o idhios* encodes logophoricity.

In a study on logophoricity based on long-distance reflexives in Icelandic and Japanese, Sells (1987)<sup>7</sup> argues that there is no unified notion of logophoricity, but logophoric phenomena are clusters of three primitive discourse-semantic notions, namely, *source* (the one who makes the report), *self* (one whose internal feeling is being reported) and *pivot* (point of view) Sells (1987: 445). Based on this tripartite division, Sells goes on to define four discourse environments which follow from the combination of these three semantic notions. Among these four environments there is one that involves logophoric verbs. This, according to Sells, is the prototypical logophoric context. In that case, the internal protagonist carries the three semantic roles, namely the *self*, *source* and *pivot*. Let us illustrate with an example from Modern Greek:

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<sup>7</sup> A more in-depth examination of logophoricity is beyond the purpose of this paper. We only examine the phenomenon in relation to the distributional overlap between *o idhios* and null pronoun. For that purpose we adopt here the analysis proposed by Sells (1987). For a critique on Sells (1987) and for a further analysis, see also Stirling (1993).

- (11) O Janis<sub>i</sub> lei oti o idhios<sub>i</sub> ine eksipnos  
the John says that the same self is clever  
'John says that he is clever.'

First of all, in (11) *John* is the source of the report. Moreover, he is the *self* since he is the one who says that he is clever and finally, the *pivot* as the point of view of the sentence is the same as *John's* point of view who is the internal protagonist. However, in an example like the following the antecedent of *o idhios* is not the *source* but it is the *self* and the *pivot*.

- (12) O Janis<sub>i</sub> nomizi oti **o idhios<sub>i</sub>** ine eksipnos  
the John thinks that the same self is clever  
'John thinks that he is clever.'

The fact that the *source* is external does not really affect the logophoric reading of *o idhios*; it just shows that logocentric verbs such as verbs of saying, reporting etc.) appear to trigger the logophoric interpretation of long-distance reflexives such as *o idhios* to a different degree.

There is cross-linguistic evidence (see Huang 2000, Stirling 1993) that certain verbs allow the logophoric interpretation of long-distance reflexives in a higher degree than others do. Thus, there seems to be a kind of implicational universal for these types of verbs, which is formulated as follows:

Universal for logocentric predicates, (Huang, 2000: 185)

Speech predicates > epistemic predicates > psychological predicates >  
knowledge predicates > perceptive predicates.

According to this hierarchy, the existence of a certain predicate type in a language also involves the existence of the predicates higher in the hierarchy. So for instance, if psychological predicates are possible then both epistemic and speech predicates are equally allowed.

In Modern Greek, knowledge predicates permit the establishment of a logophoric domain as example (13) illustrates. As it is predicted from the hierarchy above, every class higher in this hierarchy will be allowed.

- (13) O Janis<sub>i</sub> kseri oti o idhios<sub>i</sub> ine o kaliteros mathitis  
the John knows that the same self is the best student  
'John knows that himself is the best student.'

Moreover, psychological verbs also trigger a logophoric domain.

- (14) O Janis<sub>i</sub> fovate oti o idhios<sub>i</sub> tha plirosi ja oti eghine  
the John is afraid that the same self will pay for what happened  
'John is afraid that he himself will pay for what happened.'

- (15) O Janis<sub>i</sub> eknevrizete otan o idhios<sub>i</sub> xani sto podhosfero  
the John gets angry when the same self loses in the football  
'John gets angry when he himself loses in football.'

Furthermore, epistemic predicates allow for the logophoric use of *o idhios*. In this category Huang (2000) also includes non-factive perceptives such as 'see' (that) and 'hear' (that).

- (16) O Janis<sub>i</sub> nomizi oti o idhios<sub>i</sub> ine o kaliteros mathitis  
the John thinks that the same self is the best student  
'John thinks that himself is the best student.'

- (17) O Janis<sub>i</sub> idhe oti o idhios<sub>i</sub> dhen ixε kamia elpidha stis eksetasis  
the John saw that the same self not had no hope in the exams  
'John saw that he had no hope in the exams.'

Finally, examples like (18) and (19) show that speech predicates allow the establishment of logophoric domains in Modern Greek. In fact, these predicates trigger stronger logophoric interpretations than the rest of the logocentric predicates. In the examples below, the use of the anaphor *o idhios* will M-implicate a logophoric interpretation of the pronoun. At the same time, the I-principle will induce the co-referential reading since there is no M-implicature in terms of reference to cancel it.

- (18) O Janis<sub>i</sub> lei oti o idhios<sub>i</sub> ine o kaliteros mathitis  
the John says that the same self is the best student  
'John says that himself is the best student.'

- (19) O Janis<sub>i</sub> rotise an o idhios<sub>i</sub> bori na erthi sto party  
the John asked if the same self can to come to the party  
'John asked if he himself can come to the party.'

The logophoric interpretation of *o idhios* can be accounted for by the systematic interaction of the neo-Gricean pragmatic principles. When there is an option between a zero pronoun and *o idhios*, the speaker will tend to use the unmarked zero if a marked message is not intended. By contrast, if a logophoric interpretation is intended, the more marked *o idhios* will be used. This is explained in terms of the interaction of the M- and I-principles. Given the M-scale  $\langle \emptyset, o idhios \rangle$ , the use of the more prolix anaphor, instead of the unmarked zero, will M-implicate the intention of the speaker to go for a logophoric interpretation.

## Two subtypes of M-implicatures

To recapitulate so far, it has been illustrated by the data that the use of a more prolix anaphoric expression where a less prolix one could have been used, does not necessarily trigger an M-implicature in terms of reference. At the risk of redundancy, the reader should recall that the use of the more prolix pronoun *aftos* or the anaphor *o idhios*, instead of the zero pronoun, does not generate a contrast in reference but it indicates a marked message in terms of emphasis and logophoricity respectively. In consequence, I understand that the contrast that exists between *aftos* or *o idhios* on the one hand, and the null pronoun on the other, is maintained at a level other than reference. In a sense, there are two sub-types of M-implicatures, namely, those indicating reference and those signalling emphaticness/ contrastiveness or logophoricity. The revised neo-Gricean pragmatic apparatus indeed predicts that M-contrasts can hold at a level other than reference, thus being able to account for these ‘unexpected’ interpretations. What now remains to be investigated is how these two sub-types interact with each other.

### The M-hierarchical pattern

The examination of data from Modern Greek shows that there is a kind of complementarity between these two sub-types. This means that in cases where there is an M-implicature in terms of reference, there cannot be an M-implicature in terms of emphaticness/ contrastiveness or logophoricity, and vice versa. In other words, an anaphoric expression that is marked for a contrastive/emphatic or logophoric interpretation cannot encode change in reference. For instance, the use of the full pronoun *aftos* (him) in the following example can be either emphatic, which means that reference is maintained, or it can indicate change in reference, which means that it cannot be emphatic.

- (20) O Janis<sub>i</sub> theli Ø<sub>i</sub> na fighi.  
 the John wants (he) to go  
 ‘John wants to go.’
- (21) O Janis<sub>i</sub> theli AFTOS<sub>i</sub> na fighi.  
 the John wants he to go  
 ‘John wants to go himself.’
- (22) O Janis<sub>i</sub> theli aftos<sub>j</sub> na fighi.  
 the John wants he to go  
 ‘John wants him to go.’

What is more, as I acknowledge, apart from the systematic complementarity between these two sub-types, there must also be a kind of hierarchical relationship. Since the primary function of anaphoric expressions is to encode referential properties, reference resolution is the first to be calculated when it comes to the interpretation of an

anaphoric expression. Any other interpretation, which lies at a deeper pragmatic level, should be calculated when reference is resolved. What then is necessary for the pragmatic apparatus is to formalize this hierarchy by incorporating a resolution schema that will predict the order in which these two types are being calculated.

What I put forward here is a hierarchical schema which regulates the interaction of these two subtypes of M-implicatures (in reference and in contrastiveness/emphaticness and/or logophoricity).

(23) M-scalar hierarchical schema

M-contrasts:

(a) reference

(b) contrastiveness/emphaticness or logophoricity

According to this hierarchical schema, M-implicatures in reference are to be calculated first, in the absence of any contrastive/emphatic or logophoric intended meaning. However, when there is no contrast in reference, an M-implicature in contrastiveness/emphaticness and/or logophoricity will be calculated.

The lettering in the schema reflects the hierarchy of the two types of M-implicatures. The study of the empirical data shows that when there is an M-contrast in reference, there is no contrast in contrastiveness/emphaticness and/or logophoricity, and vice versa. This schema can account for the fact that M-implicatures are not cancelled, even when reference is maintained, since they operate at other levels of pragmatic explanation as well.

## Conclusion

Summing up the discussion, I have outlined the neo-Gricean pragmatic framework for the interpretation of NP-anaphora. As was illustrated by the examination of some Modern Greek data, there are cases in which the use of a formally more marked anaphoric expression, instead of an unmarked one, does not trigger an M-implicature of disjoint reference. It was argued then that the M-implicature is still triggered but at this case it operates at a level other than reference, namely, that of contrastiveness/emphaticness or logophoricity. As a result, having two sub-types of M-implicatures, and based on the empirical findings from Modern Greek anaphora data, I put forward a hierarchical resolution schema, according to which M-implicatures in reference are the first to be calculated by interlocutors. When there is no contrast in reference, an M-implicature in contrastiveness/emphaticness or logophoricity will take over. In this way, we can give an adequate and elegant explanation of the pragmatic factors involved in the choice of anaphoric expressions. What is more, it was shown that M-implicatures (triggered by the use of marked anaphoric expressions like *o idhios*) are still active even when reference is maintained, since they operate at a level of pragmatic explanation other than reference, namely, emphasis, contrast and/or logophoricity.

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