RELEVANCE-THEORETIC OBJECTIONS TO LEVINSON'S GCI THEORY

ISAO HIGASHIMORI

*Ryukoku University**

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1. Introduction

In this review article, I will first broadly outline the proposals made in Levinson (2000), then criticize his central ideas in discussing problems raised in recent papers by Wilson (2002a, 2002b, 2002c), Carston (1995, 1996, 1998, 2000, 2001), Matsui (2002) and others, and finally extend the discussion to suggest how one might account for Levinson's observations in Relevance Theory (henceforth RT). Towards the end, I will offer an overall evaluation of the place of Levinson's theory of generalized conversational implicature (GCI) and Sperber and Wilson's RT in the recent literature on cognition and communication.

The paper is organized as follows. In section 2, I will summarize the basic assumptions on which neo-Gricean pragmatics is based, and

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the more particular assumptions in the present work that utterances have default or preferred interpretations, that there are three layers of meaning, and that pragmatic interpretation is based on a set of three heuristics. In section 3, I begin to sketch Levinson's notion of GCIs and raise some serious problems with GCI theory. In section 4, I go on to propose reanalyses within RT of phenomena for which Levinson has given problematic analyses involving GCIs. For reasons of space, I will mostly concentrate on problems related to explicature. I conclude the discussion by outlining the overall differences between RT and Levinson's GCI theory.

2. Brief Outline of Levinson (2000)

Levinson is a neo-Gricean (a group which includes Laurence Horn and others). His account of pragmatics can therefore be characterized as social. His current research project is clearly described as follows: 'to divert cognitive science into a proper consideration of social and cultural factors' (p. xiv).^{1, 2}

In this book, Levinson develops a neo-Gricean theory of "presumptive meanings" (or preferred interpretations) and explores "default inferences" (p. 15), expanding upon the Gricean notion of generalized conversational implicature (GCI) (as opposed to "particularized conversational implicature" (PCI)). He claims that in order to explain GCIs, a new third level of "utterance-type meaning" should be distinguished from the levels of sentence-meaning and speaker-meaning (or utterance-token meaning) (p. 22).

According to Levinson, GCIs are defeasible (or cancellable) (p. 155) inferences triggered by the speaker's choice of utterance forms ("simple, brief, unmarked forms" vs. "marked, prolix, or unusual forms" (p.

¹ Levinson's goal in this book is to construct an overall theory of meaning which is called the "architecture" of meanings. His idea of GCIs comes from the assumption that "meaning" is essentially composite—that is, that we need to carve up the semiotic pie into components such as GCIs, and PCIs.

² As will be shown in section 3, Levinson's definitions for the three heuristics involve stereotypes, markedness and so on. As for stereotypes, there must be a sociocultural assumption that the form-meaning pairing is accepted as a "norm" by a certain speech community (cf. Levinson (2000: 115)). What I will object to in this paper is the claim that knowing this "norm" in advance plays an essential role in utterance interpretation.

6)) and by the presence of a certain sort of lexical items, because of three different heuristics which are related to Gricean maxims of Quantity and Manner (p. 15) and mutually assumed by speaker and hearer (cf. Grice (1989: 26–27)).

Levinson argues that GCIs are context-independent and do not rely on “specific contextual assumptions” (p. 16) (while PCIs are context-sensitive) and that “a theory of GCIs has to be supplemented with a theory of PCIs that will have at least as much, and possibly considerably more, importance to a general theory of communication. It is just to a *linguistic* theory that GCIs have an unparalleled import” (p. 22).

The book consists of a short introduction, four major chapters, and a final chapter titled “Epilogue.” I will first summarize the four essential components and then provide a critical evaluation of Levinson’s theory from a relevance-theoretic point of view.

In the Introduction, Levinson sketches a picture of linguistic communication and demonstrates three heuristics, which, in his view, will serve to amplify utterance content (p. 6).

In Chapter 1, “On the Notion of a Generalized Conversational Implicature,” Levinson claims that the existence of “preferred interpretations” is self-evident. In what follows he concentrates on explaining that these preferred interpretations are context-independent.

Let us look at the following examples given in Levinson (2000: 16–17):

(1) Context 1

A: “What time is it?”

B: “*Some* of the guests are already leaving.”

PCI: It must be late.

GCI: *Not all* of the guests are already leaving.

(2) Context 2

A: “Where’s John?”

B: “*Some* of the guests are already leaving.”

PCI: Perhaps John has already left.

GCI: *Not all* the guests are already leaving.

Levinson (2000: 17) asserts that the above GCI inferences have an entirely general currency: any statement of the form “*Some* x are G” will, other things being equal, have the default interpretation ‘*Not all* x are G.’ On the other hand, he just mentions that the PCIs shown above may be attributed to the maxim of Relevance (or Relation) (p.

17) without giving detailed explanation for “the maxim of Relevance.”

The second chapter “The Phenomena” provides numerous examples which motivate the three neo-Gricean species of GCIs and raises a number of linguistic problems that pragmatics is now facing (see pp. 104–108). The highly productive Q-implicatures (scalar implicatures and clausal implicatures) are discussed.

Levinson’s three heuristics potentially produce incompatible inferences from a simple utterance. So the GCI theory has to state the conditions under which a potential implicature generated from a part of a sentence is inherited by the whole. In order to solve such so-called “projection problems,” the following “resolution of inconsistent potential implicatures” is proposed:

- (3) Priority is assigned to inference according to the principle under which they are generated: Q-implicatures > M-implicatures > I-implicatures (Levinson (2000: 157))

The third chapter, “Generalized Conversational Implicature and the Semantics/Pragmatics Interface,” argues against the traditional view of the roles of implicatures. Levinson asserts (p. 166) that “the crucial fact that I will try to establish is that generalized conversational implicatures seem to play a role in the assignment of truth-conditional content.” This being the case, we are left with some difficulties regarding the division between semantics and pragmatics, and between what is said and what is implicated. He explicitly attacks RT’s distinction between explicature and implicature (Levinson (2000: 197)), claiming that “at the moment we have no reliable distinguishing criteria for the explicature/implicature distinction even for terminological purposes, and there is certainly no indication that any such distinction would substantially help us understand the nature of inferences in question.”

In the final chapter, “Grammar and Implicature: Sentential Anaphora Reexamined,” Levinson explores the implications of GCI theory for syntax, especially considering the distribution and typology of anaphoric expressions in relation to patterns of preferred interpretations. Levinson confronts the Chomskyan generative paradigm, in this case the binding of anaphora. The Chomskyan generative account of anaphora is based on three binding conditions. Levinson accepts only the second binding condition as a grammatical rule (or as a pragmatic rule called the “disjoint reference presumption”), reducing the other two to pragmatic inferences. Levinson proposes retaining binding condition A as part of the grammar, while accounting for the distribution

of pronouns and NPs (previously dealt with using binding conditions B and C) with pragmatic principles (GCIs) instead.

Throughout the book, Levinson raises possible objections and counterexamples to alternative theories of pragmatics, especially RT. For example, he claims that “Nonce-implicature theorists [Relevance Theorists] may want to insist that it [the ‘and then’ interpretation of the AND conjunction in ‘p *and* q’] all depends on content and context and that there is no such default interpretation” (p. 123); and that “Reductionists [Relevance Theorists] will forever be tempted to assimilate it [GCI] to either the level of coded meaning or the level of nonce-inference. But this is a mistake.” (p. 367)

3. The Three Heuristics of Levinson (2000)³

3.1. The First (Quantity, Q-) Heuristic — What Isn’t Said Isn’t — (Cf. Grice’s submaxim Q1: “be as informative as is required”).

This heuristic accommodates scalar implicatures (e.g. “*Some* of the boys came” scalarly implicates ‘*Not all* of the boys came’) and clausal implicatures (e.g. “*If* there is life on Mars, the NASA budget will be spared” clausally implicates ‘There *may or may not* be life on Mars’).

Q-implicatures are those generated by the use of the least informative member of a Horn-scale, which is generally taken to implicate that the stronger item is not applicable (e.g. *some* implicates *not all*).

3.2. The Second (Informativeness, I-) Heuristic — What Is Expressed Simply Is Stereotypically Exemplified (cf. Grice’s submaxim Q2: “Don’t be more informative than required”).

I-implicatures are inferential enrichments due to world knowledge or to knowledge of the context in which an expression is used and reflect a

³ Some basic questions can be raised for Levinson’s neo-Gricean approach.

- (i) What is the evidence that the existence of these three heuristics (for instance, knowing a ‘norm’ in advance in a society as a stereotype) play a crucial role in recognizing what the speaker intends to say and imply?
- (ii) What is the rationale behind there being three principles or heuristics? Could the number of principles be not expanded but reduced?
- (iii) Are the three heuristics universal or language-specific?
- (iv) Are they innate or acquired?

tendency to economize and to provide no more information than is necessary to the recovery of a message (e.g. “John came in and *he* laughed” I-implicates that ‘*he* refers to what *John* refers to’).

Levinson (2000: 117) analyzes bridging assumptions as a case of I-implicatures. This problem will be discussed in some detail in section 4.3.

- (4) The picnic was awful. *The beer* was warm.
I-implicates ‘*The beer* is part of the picnic.’

3.3. The Third (Manner, M-) Heuristic—What Is Said in an Abnormal Way Isn’t Normal (cf. Grice’s submaxims M1 & M4 to “avoid obscurity of expression” and “be orderly”).

M-implicatures are inferences triggered by the use of a more prolix⁴ expression (e.g. “John came in and *the man* laughed.”) instead of a less marked expression (e.g. “John came in and *he* laughed” M-implicates that ‘*the man* denotes someone other than *he* would have’).

4. Some Problems with Levinson’s GCI’s

There are a number of serious problems with Levinson’s perspective on GCIs.

The first and most serious problem Levinson raises is the distinction between explicit communication and implicit communication. Levinson’s idea of ‘what is said’ and literal meaning is not clearly described. For instance, the utterance “John has *three* children” containing a numeral is said to have a literal semantic meaning of ‘John has *at least three* children’ and to pragmatically Q-implicate ‘John has *at most three* children’ as the result of pragmatics (Levinson (2000: 88)).

Where does this ‘at least’-meaning come from? Bultinck (2001) uses corpus data to show that “bare numerals” tend to be given ‘exactly’-

⁴ Levinson’s notion of minimization refers to semantic minimization (e.g. a pronoun is nearly always semantically more minimal and less specific than a lexical NP), and minimization with regard to surface length and complexity. But Ariel (1994: 20–21) points out that *Bea* (proper name) and *she* are equally long, but substantially different with regard to semantic specificity, while *the U.S.* is substantially shorter than *the United States* yet equally rich semantically. So Levinson’s notion of minimization is problematic.

interpretations, whereas Levinson would have to explain this 'exactly' interpretation by deriving it from the 'at least' literal meaning every time it occurs in an utterance.

A second problem is that many of the crucial terms in Levinson's framework (as in Gricean pragmatics) are left entirely undefined. As is argued by Masuko (2001), the title of this book itself begs the question: 'presumptive meanings' *on the basis of what?* The terminology of 'preferred interpretations' is also problematic in that Levinson does not say anything about *by whom* the interpretations are preferred.

A third problem with "inference to stereotype" is that it is not easy to find a stereotypical interpretation unless a large knowledge base allowing common-sense reasoning can be incorporated. Levinson's theory of GCIs seems to be insufficient in that there is no computational mechanism in which the intended set of contextual assumptions ('context') is appropriately chosen. It is not clear how such inferences/implicatures can be calculated.

A fourth problem is that it is not clear when default interpretation (or preferred interpretation) does not hold. If the same linguistic expression can be explained by two different pragmatic principles (i.e. GCIs and PCIs), Levinson's 'architecture' of an overall theory of meaning (p. 166) seems to me quite counterintuitive (see footnote 1 above).

A final problem is that some linguistic evidence cited as supporting Levinson's GCIs is counterintuitive, which calls the three heuristics into doubt. As is pointed out by Capone (2001: 580), in a sentence like *John likes him*, given the scale $\langle \textit{himself}, \textit{him} \rangle$, *him*⁵ is disjoint in reference due to a Q-implicature (Levinson (2000: 289)), and so theoretically this implicature can be cancelled. But in this example, cancellation is not possible. Thus Levinson's claim that Binding Condition B is captured by Q-implicature on the basis of this linguistic fact is incorrect.

⁵ In RT, pronouns such as 'I,' 'we,' 'it' and 'him' can be handled in procedural terms and seen as pointers to particular types of referent. See Kempson (1988a: 153) for a range of accessible information about anaphora. Kempson (1995), Kempson, Meyer-Viol, and Gabby (2001) and Blackwell (2000) discuss the relation between RT and anaphora in some detail.

5. Objections to Levinson (2000)

5.1. Levinson's Attack on Explicatures

In order to defend his notion of GCIs, Levinson (1989, 2000: 195–196) vigorously argues against RT's notion of explicature. His proposed tactic is to claim that there is no theoretical justification and/or empirical evidence for the relevance-theoretic notion of explicature.

To illustrate the different motivations for Levinson's GCIs and RT's explicatures, let us take up some concrete examples:

(5) A: "Who came?"

B: "*John*" <came> (Levinson (2000: 183))

Levinson argues that if (5A) says "Who came?" and (5B) replies "John," (5B) expresses the proposition that *John came*. Where does the "unsaid" <came> come from? According to Levinson, the interpretation of the "unsaid" is governed by the I-heuristic and a Relevance maxim. So paradoxically Levinson's GCIs (a type of implicatures) play a role in the establishment of 'what is said.' In addition to this, the content of GCIs can fall within the scope of logical operators and other higher level processes of semantic composition (see Levinson (2000: 198–217)) on "intrusive constructions" such as comparatives and conditionals), and GCIs interact with crucial philosophical distinctions in reference. So Levinson claims that GCIs contribute to truth conditions and that GCIs interact "so deeply with the structure of language that we will never build an adequate linguistic theory without paying proper attention to it" (Levinson (2000: 367)).

From these observations, Levinson concludes that the traditional view of the semantics/pragmatics interface should be rejected and that a new architecture for the theory of meaning is necessary.

In contrast, Sperber and Wilson (1986) introduce the term 'explicature' by analogy with Grice's term 'implicature.' Sperber and Wilson (1995: 182) and Wilson (2002a) define explicature in this way.

Explicature: An assumption communicated by an utterance is an explicature if and only if it is an inferential development of a logical form encoded by the sentence uttered.

Key property of explicatures: They must logically warrant the derivation of enough implicatures to satisfy the hearer's expectations of relevance.

(See Carston (2000, 2001) and Recanati (2002) on the notion of enrich-

ment.)

Compare example (5) to example (6):

- (6) *Michael's Dad*. [uttered while indicating to the addressee a man who has just come into the room]

(Carston (2000: 23))

The discourse-initial utterance (6), which is not a candidate for ellipsis, is a noun phrase without any further linguistic structure. The material in brackets in (6) indicates some situational or visual information which is accessible to the hearer. The minimal linguistic form chosen by the speaker in (6) provides all the evidence necessary for the hearer to infer the speaker's informative intention and causes him no gratuitous processing effort. Grammatical reconstruction like that in Levinson's argumentation regarding (5) above is thus not sufficient to derive the proposition expressed in example (6). The relevance-theoretic pragmatic account of the interpretation makes it possible to develop the logical form of (6) as an explicature, for instance: *The man near the door is Michael's Dad*. This 'free' enrichment is also involved in the interpretation of the following bracketed materials. Note that each example in (7) below is fully propositional (truth-evaluable) without the bracketed material, but in many contexts, it is the enriched propositional form that is communicated and is taken by the addressee to be the content of what is asserted, that is, the basis upon which the speaker is judged to have spoken truly or not. Without these developments of the logical form, in most contexts the interpretation of the utterance would not satisfy the presumption of optimal relevance according to which an utterance is presumed to be (i) relevant enough to be worth processing and (ii) the most relevant utterance compatible with the communicator's abilities and preferences (see Sperber and Wilson (1995: 164–172) for further details). The relevance-theoretic position is that these are cases of free enrichment, mandated entirely by pragmatic requirements rather than by any linguistic constituent present in the logical form.

- (7) a. Sue got a PhD and [*then*] became a lecturer.
b. Jack and Jill went up the hill [*together*].

In RT, "explicature" is introduced to account for the problem that Gricean 'conversational implicatures' should make no contribution to truth conditions of utterances in which they occur, but clearly do contribute to truth conditions. Thus a so-called 'conversational implicature' (like the '*and then*' interpretation occasioned by the use of the

conjunction *and* in (7a)) does affect truth conditions. Reversing the order of conjuncts (*P and Q*) (*Q and P*) does affect truth conditions as is shown in (8), although logical '&' is reversible: $P \& Q = Q \& P$.

- (8) Bill hates parties: either he gets drunk *and* no-one will talk to him or no-one will talk to him *and* he gets drunk.

So RT's pragmatic principles contribute as much to the explicit side of communication as to the implicit side.

As will be shown below the RT account claims that some of the cases that are treated as GCIs (thus as 'implicatures') in Levinson (2000) are in fact cases of explicit meaning, called explicatures in the RT framework. Levinson is operating with a different definition of explicit communication, on which all pragmatic inferences are called 'implicatures,' whether or not they contribute to truth-conditional content. So the issue is partly related to how we understand the interface between semantics and pragmatics. As will be shown, RT can account for various utterance interpretations and pragmatic phenomena, which cannot be explained by GCI theory.

5.2. RT's Explicature vs. Levinson's GCIs ("Conjunction Buttreasing")

- (9) John turned the key *and* the engine started.

According to Levinson (2000: 117), an utterance of the form "*p and q*" where *p* and *q* describe events, such as (9), I-implicates '*p and then q*' (temporal sequence) or I-implicates '*p therefore q*' (causal connectedness).

According to RT, the 'and then' interpretation in (9) can be derived by pragmatically enriching the linguistically encoded logical form, and so this kind of utterance interpretation is captured by an explicature, not by an implicature. See Carston (2001: 22) for a detailed discussion of this enrichment process.

As is discussed in Levinson's section 2.5 (p. 154), in (10a) there are no Q-implicatures from *p and q* because *and* is the strong member of the scale $\langle \textit{and}, \textit{or} \rangle$ and also no M-implicatures from *p and q* because no abnormal expressions are included in (10a). Moreover, stereotypicality-based I-implicature cannot explain the following example in that there is no stereotypical relation between the handkerchief and the door, as pointed out in Higashimori (1992: 342):

- (10) a. She gave him her handkerchief and he opened the door.
b. MARY GAVE JOHN HER HANKERCHIEF AND

THEN JOHN OPENED THE DOOR WITH THE
HANDKERCHIEF IN ORDER TO INVESTIGATE
THE CRIME SCENE.

In order to enrich the utterance in (10a) as (10b), we have to construct a special context (or assumption) such as ‘John is a policeman investigating a crime.’

The relevance-theoretic account would go like this: (10b) is communicated as an explicature of (10a). In order to obtain a proposition which is truth-evaluable, an incomplete logical form encoded by an utterance like (10a) has to be pragmatically enriched by three processes: disambiguation, fixation of reference, and enrichment (saturation or linguistically mandated completion and free enrichment). See Carston (2000, 2001) and Recanati (2002) for enrichment.

If Levinson tries to account for “conjunction buttressing” cases like (9) and (10) by means of different pragmatic devices (GCI and PCI respectively), then his analysis requires two mechanisms for something that can be handled by a single mechanism. Moreover, his treatment is counterintuitive in that both examples seem to involve the same kind of processing.

It seems that the linguistic facts about the “intrusive constructions” (i.e. comparatives, conditionals, and so on) which are named by Levinson can also be explained in RT quite naturally in the way shown above. By considering these constructions, Levinson strangely concludes that GCIs (‘implicatures’) contribute to truth conditional content.

5.3. RT’s Implied Premise vs. Levinson’s GCIs (“Bridging”)

As is mentioned in section 2.2, Levinson (2000: 117) tries to explain the ‘bridging’ cases by using I-implicatures, as in (11).

(11) John unpacked the picnic. *The beer* was warm.

I-implicates ‘the beer was a part of the picnic.’

In Japanese, this typical example is first problematic in that the Japanese concept of picnic normally does not contain beer.

Matsui (2002) provides counterexamples to Levinson’s I-implicature account in which there are no stereotypical assumptions available. In order to account for the bridging reference of *the beer* in (12) and (13), we have to consider not a stereotypical (or default) context, but a special one and thus a nonce-inference. In the normal context of ‘the job interview,’ *a beer* cannot be served, and so the default inference won’t

work here because of the difficulty in connecting the two in our knowledge.

(12) Mary: How was the job interview?

John: *The beer* was warm.

(13) John: I had a job interview. *The beer* was warm.

In RT, implicatures are either implicated premises or implicated conclusions. A bridging inference is treated as an implicit premise. RT can explain examples like (11), (12) and (13) by using the same kind of processing, and makes the following correct prediction:

(14) Relevance-theoretic Prediction

The expectation of particular cognitive effects may constrain/facilitate the derivation of bridging inferences (Matsui (2002)).

On the other hand, Levinson's prediction, given in (15) does not work properly as is illustrated by (12) and (13).

(15) When two juxtaposed utterances require a bridging inference, the most stereotypical one is always generated as default, and tested before finally being accepted and rejected.

(See Huang (2000: 249) for an assessment of Matsui's analysis of bridging.) Also, as is shown in Wilson (1990), there are differences in acceptability that cannot be explained by Levinson's stereotypical account of 'bridging,' while RT can give a natural explanation for these. For example, the increase in acceptability from (16a) to (16d) is due to the processing efforts by which the hearer works out the implicated premise. In order to understand the bridging in (16a), the hearer needs to infer that the play John and Mary saw must be *Macbeth*. On the other hand, in (16d), it is much easier for the hearer to access the information that in *Macbeth*, there are three witches.

(16) a. John went out with Mary last night. *The three witches* were excellent.

b. John went to the theatre with Mary last night. *The three witches* were excellent.

c. John saw a Shakespeare play with Mary last night. *The three witches* were excellent.

d. John saw 'Macbeth' with Mary last night. *The three witches* were excellent.

5.4. RT's Inferential Enrichment (Loosening and Narrowing) vs. Levinson's Scalar Implicature

Levinson (2000: 17) notes that an expression of the form *an X* may sometimes carry a scalar implicature (GCI): for example, "I cut *a finger*" implicates 'I cut *my finger*' because it would require special assumptions to make plausible an interpretation where S cut someone else's finger and the identity of the victim was unknown or irrelevant.

According to Levinson, the Horn scale $\langle my, a \rangle$ contains a stronger expression (possessive *my*) and a weaker one (the indefinite *a*). But this analysis is insufficient in some respects. First, the two 'contrasting' elements *my* and *a* are semantically quite different in that the former belongs to the domain of POSSESSION and the latter belongs to that of NUMERALS. So it is not clear why these two different members can be regarded as a scale $\langle my, a \rangle$.

Second, in Levinson (2000), there is no way to calculate a specific context beyond the default context, and so we do not know how 'a finger' is in some cases given an interpretation like 'a doll's finger' or 'a baby's finger,' as in certain interpretations of (17).

(17) I broke *a finger*, but it was *not my own*.

Third, it is not clear how Levinson can deal with the uses of 'break a finger' in (18) and (19).

(18) Many dolls have bolts through their necks too, you know, just not sideways, unless the doll-maker was really tired. Dr F and the doll-maker both know the horrible frustration of the self-dislocating arm or a loose eyeball rolling back into the head. Not to mention the tendency of creations propped up for display to fall forward and *break a finger* off, just as a potential buyer approaches. (WebCorp)

(19) Tiny doll fingers were sometimes wrapped individually because wrapping the entire hand together might *break a finger*. (WebCorp)

In the doll-related contexts in (18) and (19), *a finger* would refer to one of the doll's fingers and so Levinson's default scalar implicature (*my finger*) would have to be cancelled in some way. However, intuitively no such cancellation is necessary.

According to RT, the concept explicitly communicated by use of a word (*finger*) may be an inferential enrichment (e.g. a loosening or narrowing) of the encoded meaning, undertaken in the search for optimal relevance. Narrowing is defined as the use of a word in a more spe-

cific sense than the encoded one, and loosening is a process of widening the lexically-specified denotation. In the expression 'cut a finger,' 'a finger' is often narrowed to 'a part of the skin of one of my fingers.'

In addition to the above inadequacies, we may consider metonymic understanding. For example, 'break an arm or leg' in (20) should finally be understood to mean 'break a bone in her arm or leg.'

- (20) Just because she doesn't have anyone to chatter with all day doesn't mean she is incapable of understanding that accidents can happen; she could fall downstairs and break *an arm or a leg*, the barn might catch on fire.

(S. King, *Misery*, 1987, p. 96)

Levinson's scalar implicature analysis is too rough to account for this kind of data. However, RT can explain this kind of metonymic interpretation by means of Ad Hoc Concept Construction (ARM* or LEG*) at the explicature level without any additional machinery.

In sum, Levinson's analysis of the 'a finger' example has many insufficiencies: i) it is questionable in that the Horn-scale $\langle my, a \rangle$ is composed of two quite different semantic elements; ii) Levinson does not say anything about how the context affects GCIs; iii) Levinson only mentions 'generality-narrowing' cases but does not consider 'loosening' cases at all, and finally iv) Levinson's GCIs miss significant generalizations regarding the expression 'an X' because, while he analyzes the 'a finger' case as a scalar (or Q-) implicature, 'a drink' in (21) and 'a secretary' in (22) are regarded as 'generality narrowing' and accounted for by I-implicatures.

- (21) He had *a drink*. (Levinson (2000: 185))

- (22) *a secretary* (Levinson (2000: 37))

In his view (21) I-implicates 'He had *an alcoholic drink*' while (22) I-implicates '*a female secretary*.'

Example (23) demonstrates further issues related to the use of *my* and *a*.

- (23) a. I bumped *my* nose/**a* nose. (Birner (1988))
 b. I tore *a* ligament/?*my* ligament. (ibid.)

Birner (1988) argues that the choice between possessives and indefinites depends on the numerical knowledge of body parts. Levinson's GCIs do not say how to incorporate such world knowledge into the calculation of implicatures based on the scale $\langle my, a \rangle$. Thus his claim is factually untrue, and so theoretically inadequate. Similar remarks apply in the case of *secretary*. In the next subsection, we shall consider

this problem briefly.

5.5. RT's Inferential Enrichment (Narrowing) vs. Levinson's GCIs ("Inference to Stereotype")

According to Levinson (2000: 117), 'secretary' in (24) should I-implicate a female secretary. In his view, socially defined 'stereotypes' operate here in calculating the implicature by 'a secretary.' If stereotypes differ from culture to culture, and from situation to situation, his I-narrowing should be considered context-dependent, not context-independent. If so, it seems to be difficult to retain the difference between GCIs and PCIs. So without an explicit explanation for the different interpretations of 'a secretary' in (24) and (25) below, Levinson's GCI theory is dubious.

- (24) The *secretary* received a monthly salary from Echigo Kotsu, and not Tanaka's office, plus 50,000 yen in cash as a monthly allowance for serving as a *secretary*. No further details of the magazine story, including the name of the *secretary*, were immediately known. (WebCorp)

In the political world in Japan, 'secretary' normally refers to a 'male' person. This is thus a counterexample to Levinson's I-narrowing. This fact also can be confirmed by the following example in which the pronoun *he* is explicitly used to refer to a secretary:

- (25) If you draw a male at random what is the chance *he is a secretary*? Since there are 28 males, and two are secretaries, the chance is 2/28 or 1/14. (WebCorp)

Levinson's notion of GCI fails to account for the interpretation of examples like (25).

As I have discussed above, RT's notion of concept 'narrowing' can capture both secretary examples in (24) and (25) naturally. In (24) the encoded concept *secretary* is narrowed to a 'political secretary' and in (25) it can be narrowed to a 'male secretary' or a 'legal secretary' depending on the contextual assumptions the hearer can access.

5.6. RT's Saturation vs. Levinson's GCIs ("Possessive Interpretation")

The second (I-) heuristic is "What is expressed simply is stereotypically exemplified" (Levinson (2000: 37, 118)). Generality-narrowing for possessives is said to be one of the phenomena captured by this heuristic.

- (26) *John's book* is good.

John's book I-implicates 'the one he read, wrote, borrowed, as appropriate.' If the hearer has some specific assumptions (contextual knowledge or world knowledge) which enable her to figure out whether John read, wrote, or borrowed the book, she can disambiguate the genitive construction as 'the book John read,' 'the book John wrote' or 'the book John borrowed.' So I wonder why I-implicatures (GCIs) are needed. Levinson's default interpretation completely fails to explain the disambiguation of the genitive construction shown above, even if it is granted that the preferred interpretation of this construction is some possessive relation between John and the book (cf. Geurts (1998)).

The disambiguation of possessive constructions is clearly dealt with by Carston (2001: 7). She correctly argues that saturation (or linguistically mandated completion) is involved in the pragmatic development of the logical form of the following utterance in which the italicized portion provides an answer to the bracketed question:

(27) I like *Sally's shoes* [shoes in what relation to Sally?]

See Recanati (2001, 2002) for the notion of saturation.

5.7. RT's Explicature vs. Levinson's Scalar Implicature: *Some (But Not All)*

In this subsection, we shall look at some examples in which *some* is claimed to imply 'not all' by scalar implicature. (Levinson (2000: 50, 68))

- (28) a. *Some* of the children were sick.
- b. SOME BUT NOT ALL OF THE CHILDREN WERE SICK.

"What is said" by the utterance of (28a) is given as (29) on Levinson's account:

- (29) AT LEAST SOME (PERHAPS ALL) OF THE CHILDREN WERE SICK.

Levinson asserts that there are highly systematic Q-implicatures associated with certain scalar items like $\langle all, some \rangle$, where in an appropriate sentence frame a strong item entails a weaker item, and the use of the weaker item (*some*) implicates that the stronger item (*all*) does not hold. So (30) is a GCI for the utterance in (28a).

- (30) NOT ALL OF THE CHILDREN WERE SICK.

In RT, the encoded concept *some* in (28a) is pragmatically enriched or strengthened by the process of concept narrowing and SOME NOT ALL in (28b) is explicated, not implicated, a part of explicature, not an

implicature (see Carston (2001) for detailed discussion of enrichment).

There are several problems with Levinson's scalar implicatures.

First, Levinson's claim that scalar implicatures are GCIs is less than convincing in view of the following experimental findings: (i) recent studies on the development of pragmatics in children (e.g. Noveck (2001)) suggest that preschoolers are often insensitive to such scalar implicatures when they interpret scalar terms. This finding supports that Levinson's claim is psycholinguistically untenable in that GCIs are not often triggered by fragmentary semantic representations by some small children; (ii) Papafragou and Musolino (2002) indicate that children do not treat all scalar terms like *<all, some>* *<three, two>* *<finish, start>* alike and, more importantly, that children's ability to derive scalar implicatures is affected by their awareness of the goal of the task. Their research casts doubt on Levinson's claim that GCIs are context-independent in that context-selection is closely related to the interpretation of scalar implicatures.

A second problem is that the following utterances containing *some* do not have 'not all' scalar implicatures on the basis of a Horn-scale *<all, some>*.

- (31) "Why yes, there's a little out-of-the-way place I'd like to take you to. That is, if you've got *some* time."

(Norwegian Wood, p. 111)

In (31), the speaker implies 'a long time' by using *some time*. Levinson would have to say that in this case, the GCI is not 'all time' but should be 'a long time,' which refutes Levinson's claim that 'some' scalarly implicates 'not all.'

An RT account of these examples can be given as follows: *Some time* in (31) is always involved in a person getting from one place to another, so it always expresses an unremarkable truism. The speaker leaves the time unspecified by using *some*.

In order to understand (31), the following assumptions must be accessible to the hearer:

- (32) a. If you go to another place, it will take time to do so.
 b. If someone says that you have to take time to go there, that is obviously true.
 c. If someone says what is obviously true, this does not make sense.
 d. If it does not make sense, we have to reinterpret the utterance.

- e. If you say that x spends *some time*, it usually means ‘a long time.’

Note that in this approach, the information that *some time* usually means ‘a long time’ has the status of an ordinary contextual assumption.

A similar explanation applies to the ‘some distance’ cases shown below:

- (33) The park is *some distance* from my house.

This proposition would specify simply that the park and the house were not contiguous, but how *some distance* is interpreted depends on the hearer’s assumptions. It is possible to interpret (33) as (34):

- (34) The park is further from my house than you might think.

Now consider the following examples containing ‘some distance.’

- (35) If you come upon a bear, do not make eye contact. If *there is some distance* between you and the bear, and there are trees, pick a good tree and climb it. Stay there until the bear leaves the area. (WebCorp)

- (36) I think *there is some distance* between students and teachers. We need more time to talk with each other and we should understand each other. (WebCorp)

- (37) “When you are reading a book, *there is some distance* between you and the book,” she said. “The discussion gave me a clarification of things I had read, as well as demonstrating to me that I should show more compassion toward everyone.” (WebCorp)

By using contextual assumptions about avoiding the danger of bears, the hearer can understand that *some distance* in (35) probably indicates some meters but not some centimeters. In (36) *some distance* is narrowed to ‘some mental distance’ between the two persons, and in (37) *some distance* can be narrowed down to ‘some psychological distance (or gap)’ between the man and the book.

In this subsection, I have shown that Levinson’s GCIs are inadequate to explain the data containing ‘some.’

5.8. RT’s Analysis of Tropes and Levinson’s GCIs (Metaphor, Metonymy, and Irony)

In Levinson (2000: 188), a radical pragmatics position is outlined as follows: Gricean Pragmatics 1 (disambiguation, fixing reference, generality-narrowing, etc.) → Semantic Interpretation (model-theoretic interpretation) → sentence-meaning (proposition expressed) → Gricean

Pragmatics 2 (indirection, irony and tropes, etc.) → Speaker-meaning (proposition meant by speaker).

In the section on Reference-by-trope, Levinson (2000: 238–239) cites examples (38)–(40) below based on which he speculates that metonymic transfers may be genuinely presemantic (in the sense that they can be calculated without access to the full propositional content of the utterance), whereas in other cases (such as ironic reference) double processing may be required.

(38) Metonymic particularized transfer

“John took the book to *Philosophy*.”

Context (i): in a bookstore, *Philosophy* might refer to a certain stretch of shelving.

Context (ii): in a university, *Philosophy* might refer to a department.

(39) Metaphoric reference

a. “Come and meet our resident *Greenberg*” (said of Bernard Comrie).

b. Pass *the vintage vinegar*” (said of a bad wine).

(40) Ironic reference “If you need a car, you may borrow my *Porsche*” (referring to speaker’s VW).

It is not clear how Levinson’s neo-Gricean account of tropes (metaphor, metonymy and irony) might go. If he follows the Gricean view that their interpretation involves violations of the maxim of Quality (truthfulness), it is not easy to distinguish between metaphor, metonymy, and irony, since all these examples would be said to violate the same maxim (cf. Grice (1989)).

Now let us briefly consider metonymy, metaphor and irony in turn.

5.8.1. Metonymy

Levinson’s example in (38) above is a case where metonymy is used referentially.⁶ Another example is (41).

(41) He eats and wears *rabbit*.

⁶ As for the referential use of metonymy, Carston (1996) raises the following point: ‘the wilting violet’ in (i) has to be given two reference assignments; one is a person, and the other is the plant named ‘the wilting violet.’

(i) *The wilting violet* has finally left.

See Recanati (2000: 244–245) for a detailed discussion of metonymy and context shifting as pretense.

'Rabbit' in (41) is a referential (or descriptive) use of metonymy in that it refers to 'rabbit meat' and 'rabbit fur,' respectively, which are substances in the world; (41) is then a **truthful** description of the referent and the problem is how the hearer moves from what was said to an 'obviously related proposition which contains the intended referent' (cf. Papafragou (1996: 177)). A first problem with Levinson's views on metonymy is that it would hardly be satisfactory to treat the resolution of metonymy as part of an implicature, since there is a strong intuition that the referent of some metonymic expressions contributes to what is said, as is clear in (41). Furthermore, an utterance may be interpretively used to (meta)represent another utterance or thought that it **resembles** in content. Consider the example (42) in which 'the fastest gun' is used not as a truthful description of the referent but to identify a hopeless shooter.

(42) Here comes *the fastest gun* in the west.

(Papafragou (1995: 164))

In RT, irony is defined as a case of interpretive use which (i) has to remain implicit and (ii) communicates an attitude of dissociation. Some metonymic expressions are also a subvariety of interpretive use, as is shown in (42). If they meet conditions (i) and (ii), then RT correctly predicts that some metonymic expressions like (42) will also be interpreted ironically (cf. Papafragou (1996: 187)). See Papafragou (1996) for further discussion of the claim that metonymy can be a variety of interpretive use.

Kleiber (1999: 339) discusses the part-whole relationship and associative anaphora in relation to example (43):

(43) a. Paul went to the theater. *They* were playing Shakespeare.

b. I bought a Golf because *they* are solid.

As we have seen in the discussion of 'bridging' reference in section 4.3, implicated premises are necessary to link *<the theater>* and *<they>* in (43a) and *<a Golf>* and *<they>* in (43b). So RT can give an adequate explanation for the relation between metonymy and anaphora. Since Levinson's GCI theory lacks the machinery to make use of world knowledge in arriving at utterance interpretations, it runs into difficulty in explaining examples like (43). Finally, Griceans and neo-Griceans presuppose that there is a literal meaning first, and that the tropes can then appear as the result of violation of some pragmatic maxims. In RT, there is no suggestion that the literal meaning must be tested first.

As with *head* in (44) below, the encoded conceptual address is treated merely as a point of access to an ordered array of encyclopedic information from which the hearer is expected to select in constructing a satisfactory overall interpretation. Whether the interpretation is literal or loose will depend on which types of information he selects. Examples (44) and (45) show that Levinson's analysis of metonymy is inadequate, since the non-literal use of 'Use your head' in (44) is much more frequently used than the literal one exemplified in (45). In (44), the encoded concept *head* is narrowed to 'mind' or 'brain.' Concept narrowing is involved in this case. In (45), when the New Buzz says, "Use your head," Rex will first understand it to mean 'Use your intelligence.' Later it becomes clear to him that the original interpretation was incorrect and that the expression was meant literally. In short, the original interpretation has to be revised in favor of the dispreferred literal one: the whole *head* of the toy named Rex is used by his toy friends as an instrument in order to break the closed door. So Levinson's analysis of metonymy is thus problematic: it is based on the idea that the hearer must first analyze what is said literally and then go on to infer a metonymic understanding.

- (44) *Use your head (=Think more carefully)!*
 (<http://www.dictionary.cambridge.org/define.asp?key=head>
 *2+0)

- (45) "What are we going to do, Buzz?" asked Rex.
"Use your head," said New Buzz.
 The toys grabbed Rex, and aimed his head at the door.
 Using him as a battering ram, they scrambled forward.
 "But I don't want to use my head," cried Rex.
 (Leslie Goldman, *Toy Story 2*, p. 71)

5.8.2. Metaphor

Levinson's truth-based account of metaphor wrongly predicts that the following example is not a metaphor, since it is always true, and does not violate the maxim of Quality.

- (46) No man is an island.

The relevance-theoretic claim is that loose use and metaphor are typically indeterminate to some degree (Wilson (2002a, b))⁷:

⁷ See Pilkington (2000) for recent discussion of the interpretation of metaphor in RT.

- (47) a. A rectangle with four equal sides is a *square*. <Literal>
 b. Jane has a *square* face. <Loose>
 c. John has a *square* mind. <Metaphorical>

In (47b), *square* conveys SQUARE* 'square in shape': an approximation to the literal truth. In (47c), *square* conveys SQUARE**, which implies that he is somewhat rigid in his thinking, does not easily change his mind, is a man of principle, or something along these lines. (47b) is indeterminate because different degrees of approximation could be understood. (47c) is indeterminate because different implicatures (of roughly similar import) could be drawn.

RT can also explain the creativity of metaphor on a principled basis. That is, the more creative metaphors are, the more weak implicatures they convey. Levinson's neo-Gricean account of metaphor cannot account for such differences in creativity.

5.8.3. Irony

As is discussed in section 5.8.1, the truth-based account of verbal irony as an overt violation of the maxim of quality and the view that irony involves literally saying one thing and figuratively meaning the opposite are insufficient, since the speaker's dissociative attitude is also involved in ironical interpretation of examples like (40) and (48B), (as in all examples of irony) (Wilson and Sperber (1992)). Wilson and Sperber (1988: 145) formalizes the speaker's dissociative attitude of (48B) as (49).

- (48) A: Peter: Ah, the old songs are still the best.
 B: Mary (Contemptuously) *Still the best!*
 (49) Mary dissociates herself from Peter's opinion that [_p the old songs are still the best] with ridicule or scorn.

The RT claim (Wilson (2002b)) is that by using some expressions interpretively, ironists convey their attitude of disappointment, resignation or, self-mockery.

Levinson's GCI theory adopts the classical view of irony, which is based on oppositeness, and thus cannot capture the echoic/interpretive aspect of examples like (48B).

5.9. RT's Procedural Analysis of the Discourse Connective *in fact* vs. Levinson's Cancelling Phrase *in fact*

Levinson (2000: 81) argues that *in fact* can be used as a cancelling phrase, since it is normally used in configurations of the sort "W(eak)

in fact S(trong)” involving a $\langle S, W \rangle$. (e.g. “Some, *in fact*, all of them came.”)⁸

In what follows, I want to demonstrate that ‘in fact’ can be used not only for ‘cancelling’ but also ‘strengthening’ of contextual effects and that it is difficult to construct a scale for some utterances without considering specific contextual assumptions.

(50) a. It’s very cold here — *in fact* it’s freezing. (RHD²)

b. No more cake for me, please. *In fact*, I’ll be lucky if I can finish this piece. (Schourup and Waida (1988: 65))

In (50a) ‘freezing’ is a stronger expression than ‘very cold’ on the scale of coldness. But in order to understand the use of ‘in fact’ in (50b), we have to construct a context in which someone who cannot eat another piece of cake conveys ‘he or she has a full stomach,’ and someone who cannot even finish the first piece of cake conveys ‘he or she has an even fuller stomach.’ By using ‘in fact’ the previous statement is strengthened on a scale of ‘fullness.’ In spite of Levinson’s claim that GCIs are default interpretations, the use of the phrase *in fact* is clearly governed by context-sensitive information and inferences.

In RT, conceptual meaning and procedural meaning are distinguished. The meaning of a word or other linguistic construction is conceptual if it encodes a concept. The meaning of a word or other linguistic construction is procedural if it encodes information about computations (i.e. how an utterance containing it should be processed). *In fact* as a discourse connective encodes procedural information *imposing* constraints on the intended implicatures, thus saving the hearer processing effort. *In fact* in ‘X in fact Y’ can be analyzed either as strengthening an existing assumption (STRENGTHENING) or denying expectation (CANCELLING). Although I do not have space here to defend this position, it seems to me that an alternative RT treatment of *in fact* should be possible in which it procedurally indicates ‘Process *Q* in *P in fact Q* as an unexpectedly relevant proposition.’ This treatment would permit individual cases of *P in fact Q* to be given an interpretation involving either denying expectation (canceling of an existing assumption) or strengthening an existing assumption. Levinson’s account seems unable to account for such alternative interpretations.

⁸ *Even* is also used as a canceling marker. See Higashimori (1997) for an analysis of *even* in the RT framework.

6. Concluding Remarks

In this paper, I have given a negative assessment of Levinson's social pragmatics (GCIs) in considering various linguistic facts, and have tried to show that RT's notions of explicature/implicature, ad hoc concept construction, and conceptual/procedural meaning are useful tools for explaining utterance interpretations.

Despite the insufficiencies shown above, I think this book is a good source of pragmatic problems especially concerning implicature and the semantics-pragmatics interface. Levinson's handy table (p. 195, Table 3.1) is also helpful to understand the competing terminologies that have been used in the literature to refer to "what is said" and "what is implicated."

Levinson's GCIs are said to be associated with particular linguistic forms in normal situations. So his GCI theory could be applied to the descriptions in lexical entries in some English dictionaries.⁹

RT is a cognitive psychological theory which treats utterance interpretation as a cognitive process. Disambiguation, reference resolution and other enrichments of explicit content are driven by the search for an interpretation that satisfies the hearer's expectations of relevance. Our powerful inferential capabilities enable us to construct ad hoc concepts during our on-line interpretation of utterances. This process is constrained by the consideration of processing effort and cognitive effects.

Levinson's GCI theory, on the other hand, is a social pragmatics and

⁹ As we have already shown in (3), where inconsistent implicatures arise they are said to be synchronically "resolved by an ordered set of priorities": $Q > M > I$. Levinson also suggests that his GCI theory should make interesting predictions about diachronic language change: "Inferences might be primary engines of change, because inferences to the stereotype will reflect changes in sociocultural environment. M-inferences to the complement of I-inferences would then consequently be shifted also. But Q-inferences might be less likely to become conventionalized on the grounds that they arise from constrained sets of salient alternates, where change in the meaning of one member would have immediate implications for the understanding of the other members, the whole set acting as a constraint on change within" (p. 370).

In RT, ad hoc concept construction (narrowing, and loosening) can explain diachronic meaning changes. See Higashimori (2001) on the grammaticalization of discourse connectives.

so pragmatic inferences are thought to be driven by some social rules or heuristics.

Based on considerations of the kind I have discussed in this paper, it is clear to me that RT's line of pragmatic research is much more promising than Levinson's.

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1-72-4 Otori Nishimachi

Sakai-shi

Osaka 593-8326

e-mail: east@sakai.zaq.ne.jp