

INFORMATION MANIPULATION THEORY: A REPLICATION AND ASSESSMENT

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Information manipulation theory (IMT) applies Grice's (1975; 1989) conversational maxims to the design of deceptive messages, but ignores the role of implicatures in deception. As a result, IMT proposes a dubious editing model of deception and an implausible conception of what it is that makes a deceptive message misleading. An alternative model, based on Grice's theory of implicature, proposes that deception involves the manipulation of information so as to generate false implicatures. McCornack's (1992; McCornack et al., 1992) studies are replicated with the inclusion of explicit checks to determine the covertness of the purported deceptive messages and to check manipulation of information-type (Quantity, Quality, Relevance, and Manner violations). None of the results are consistent with IMT predictions. Instead, the results uniformly support a model of deceptive message design based on conversational implicature.

BACKGROUND AND STATEMENT OF THE PROBLEM

In an important pair of articles, McCornack (1992; McCornack, Levine, Solowczuk, Torres, & Campbell, 1992) presents a theory of deceptive message design based on H.P. Grice's (1975; 1989) theory of conversational implicature. Deceptive messages "involve deviations from what can be considered rational and cooperative communication. . . . [D]eceptive messages mislead listeners by covertly violating the principles that underlie and guide conversational understanding" (McCornack, 1992, p. 2). McCornack claims that information manipulation theory (IMT) advances previous thinking about deception by consolidating within a single theory research findings for four primary ways of deceptively manipulating information: fabrication, concealment, distortion, and equivocation. These four ways of manipulating information correspond to violations of the four categories of conversational maxims identified by Grice (1975; 1989) as standards for cooperative communication, i.e., as ways of covertly failing to be truthful, informative, relevant, or clear.

McCornack (1992) seeks to advance a theory that is sensitive to the "extremely subtle shading of information" that can occur in deception and that captures the important distinctions in the (combinations of) ways that information is manipulated. He proposes to do this by "construing [messages] as existing at the intersection of multiple dimensions" (p. 11). According to McCornack (1992), this approach avoids the mistake of traditional research, which adopts a "primitive" and "overly simplistic conceptualization of deceptive message design . . . [by] thinking of deceptive messages as distinct 'strategies' or 'types'." IMT suggests "thinking of deceptive messages as message forms resulting from the manipulation of information in different ways" (p. 2), which allows the researcher to recognize "a potentially infinite class of specific message forms" rather than a few global categories (p. 3).¹

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McCornack is correct to insist that theories of deception be sensitive to the subtle nuances and intricacies of message design. Moreover, IMT is a breakthrough in drawing a connection between the nature of deceptive message design and principles of linguistic pragmatics. However, the conceptualization of deception by IMT does not fully capitalize on this connection. IMT makes assumptions about message meaning and editing that are inconsistent with Grice's theory of conversational implicature. Nor does IMT provide a satisfying account of deception as a construct. Contrary to the interpretation of McCornack et al. (1992) that deception occurs simply by covertly manipulating information along the four dimensions identified, available data overwhelmingly support a far more straightforward analysis: deception occurs by inviting false implicatures.

Conversational Implicature

Although IMT purports to apply Grice's theory of conversational implicature in explaining the design of deceptive messages, implicatures play a surprisingly marginal role in the account of deceptive message design. According to Grice (1975; 1989), communication is made possible by communicators' mutually orienting toward general principles of cooperation and rationality. What Grice calls conversational maxims and submaxims are guides for yielding results in accordance with the Cooperative Principle (CP). The maxims of Quantity call on speakers to be as informative as required for the purposes of the talk exchange, but to be no more informative than is required. The maxims of Quality call on speakers to avoid falsehood and to have support for what they say. The maxim of Relation calls on speakers to be relevant. The maxims of Manner refer to how things should be said rather than to what should be said—avoid obscurity and ambiguity; be brief and orderly.

The central claim of Grice's theory is that listeners use the CP and its maxims to construct sensible interpretations of what speakers say and that speakers count on listeners' doing so. Listeners try to construct inferences (what Grice calls "implicatures") that are consistent with and/or necessary to preserve the assumption that the message conveyed is a good faith effort to conform to the CP and its maxims. According to Grice (1989), "to calculate a conversational implicature is to calculate what has to be supposed in order to preserve the supposition that the CP is being observed" (pp. 39–40).

Grice discusses three ways in which conversational implicatures might be generated. The most noteworthy involves situations in which speakers obviously violate, or *flout*, one or more maxims. When someone blatantly violates a maxim at the level of what is said literally and directly, listeners do not simply conclude that the message is false, uninformative, irrelevant, unintelligible, or otherwise defective. Even though maxims are violated at the level of what is said, the presumption of cooperation leads listeners to look beyond the face value of the message to construct plausible implicatures that satisfy the CP and its maxims at the level of what is *meant*. Indirect speech acts and much nonliteral language use (exaggeration, metaphor, irony) illustrate such flouting. Another way of generating a conversational implicature occurs when maxims themselves *clash*.² The speaker implicates an inability to satisfy simultaneously all of the maxims: violating one maxim (e.g., Manner) is seen to be motivated by efforts to preserve another more important maxim (e.g., avoid falsehood). Finally, implicatures can be generated even when no violations occur.

Such "rule conforming" implicatures are generated on the assumption that they are needed (or at least allowed) if what is said directly and literally conforms to the maxims.

Grice's theory offers a constructive account of message design. Messages do not consist simply of what is said, but include a broad context of assumptions and inferences. The CP and its maxims provide an evaluative framework for judging when a context has been constructed that provides a satisfactory interpretation of what message the speaker intends to convey (Jacobs, 1994).

IMT posits that deceptive messages covertly violate one or more of the conversational maxims on the basis of Grice's (1975) observation that one way a speaker may fail to fulfill a maxim is to "quietly and unostentatiously VIOLATE a maxim; if so, in some cases he [sic] will be liable to mislead" (p. 49). However, according to IMT, deception in this case does not involve the generation of implicatures in any central way. IMT apparently assumes that implicatures are generated only when one blatantly violates the CP or a maxim (i.e., by clash or flouting). If no such violation is apparent, no implicatures are necessary to preserve the appearance of cooperation. It follows, then, that because deceptive violations of maxims are covert, listeners simply interpret what is said at face value. What is deceptive cannot be at the level of what is implicated because nothing is implicated. McCormack (1992) notes that "messages that mislead not through the manipulation of information, but through the generation of deceptive implicatures" are beyond the immediate conceptual scope of the theory (p. 14).³ This position is neither consistent with Grice nor the literature on discourse inferences (e.g., Brown & Yule, 1983; Kellerman & Lim, 1989).

Deception

To assess IMT's empirical claim that deceptive messages consist of covert violations of maxims, one must have a clear and independent conceptualization of what makes a message deceptive. However, the concept of deceptiveness is largely taken for granted by IMT. Given the scales used in the two studies and associated phrases in the texts, we might fairly assume that IMT takes a deceptive message to involve undetected concealment, fabrication or distortion of the truth, or some other undetected failure to disclose the true information. IMT also clearly takes deceptive messages to be misleading in some way. The emphasis on concealment, distortion, and the like directs us to the relation between what is said and a "truthful baseline" (McCormack et al., 1992, p. 24) of "sensitive information that is possessed" by the speaker (McCormack, 1992, p. 9); the emphasis on being misled directs us to (intended) effects on a hearer. Neither of these directions is developed in a fully satisfactory way.

Consider first the emphasis on "concealment," "distortion," "fabrication," and "disclosure." Honest messages "involve a one-to-one relationship between the sensitive information that is possessed and the information presented within the message." They are "clear and direct" disclosures of information (McCormack, 1992, p. 9). When speakers attempt to deceive, they manipulate the information in this "truthful baseline" so that what is disclosed no longer corresponds to the information possessed. In other words, IMT treats deceptive messages as deformations of an "honest" expression of information. Honest messages are "similar to messages produced by individuals possessing an expressive message design logic" (McCor-

nack, 1992, p. 9). Underlying IMT, then, is the editing view of message design that O'Keefe (1988) describes for an expressive message design logic.

Violating conversational maxims amount to different ways of editing (concealing, distorting, fabricating) information contained in an initial message that is not disclosed in unaltered form. Rather than seeing messages as the result of *constructive* processes in production and interpretation, IMT assumes that truthful, accurate, complete, and pertinent information is unproblematically given in (the speaker's construal of) the situation itself. In other words, there is some well-defined and uniquely specified body of information that exists in the context independently of the message conveyed. Moreover, the conversational maxims are treated as distinctive operations performed on this body of information.

This is not Grice's (1989) position.⁴ The CP and its maxims are standards applied in evaluating the coherence and consistency of configurations of text and context, but the context itself need not be a pre-given ground for the formation of textual interpretation. Text and context are reflexively constructed and operate as mutually elaborating frames of reference.

The outcome of communication is a fixation of textual meaning and contextual features that appear as stable, objective givens. However, messages themselves to some extent establish the objectivity of the information in a situation by virtue of those messages being seen as informationally complete, accurate, and relevant when judged against that projected situational information. There is an important sense in which the production of a message should not be seen as selections and transformations of pre-existing information, but as the very formulation of that information itself. In this sense, a deceptive message is one that excludes a better formulation rather than one that fails to satisfy some criterion of one-to-one correspondence with information already there in the situation.

Consider next the sense in which IMT treats deceptive messages as misleading. Certainly, deceptive messages are misleading in some way—that is built into the very concept of deception. Ordinarily, one would think that the way in which a hearer is misled by a deceptive message would have to do with beliefs that the hearer is or is not justified in holding given what the message conveys. Simply put, messages deceive hearers by leading them (1) to form or (2) to continue holding beliefs that turn out to be false, or (3) to drop or (4) to fail to form beliefs that turn out to be true. Deception of these sorts might occur through an act of omission whereby a speaker openly fails to correct an assumed belief s/he would be expected to correct if it were false or openly fails to support a belief the speaker would be expected to support if it were true. Deception might also occur through an act of commission whereby the speaker openly corrects a true belief or openly supports a false belief (cf. Galasinski, 1994).

The IMT conceptualization of deception does not center on the contribution of the deceiver's message to the hearer's substantive beliefs. Rather, it centers simply on failures to detect maxim violations. More specifically,

Because the violation is not made apparent to the listener, the listener is misled by her/his assumption that the speaker is adhering to the CP and its maxims. . . . Deceptive messages are "deceptive" in that, while they constitute deviations from the principles underlying conversational understanding, they remain *covert* deviations. Listeners are misled by their belief that speakers are functioning in a cooperative fashion (i.e., actually adhering to the maxims). (McCornack, 1992, pp. 5-6)

A failure to detect a violation of Quality would result in the sort of misleading effects on hearer belief outlined earlier. However, a failure to detect a violation of the Quantity, Relation, or Manner maxims would result in such effects only if such violations *also* lead to a Quality violation.

IMT makes no mention of this condition. IMT holds that the way in which hearers are misled is *simply* by failure to detect violations of Quantity, Quality, Relevance, or Clarity. It is essential to IMT that simple covert violations of these maxims *be* intrinsically deceptive, independently, in and of themselves. This is why Quality violations are only one of four ways to be deceptive and why the other three types of violations are assessed directly for their deceptive quality. What is misleading in a deceptive message is simply the generation of the false belief that the speaker is being informative, relevant, and clear.

To see how this position differs from a genuinely Gricean account, consider one example of a covert violation used by McCornack et al. (1992) in the "Upstate Terry" situation (see below for a full description of the situation). In response to the final comment in the scenario, the following utterance is provided by McCornack et al. as an example of a quantity violation: "I went out to a party one of my friends was having." In the IMT account, such a response is deceptive because Terry is not providing as much information as is called for. Terry should be disclosing the information that he/she took along a date. What is misleading about the message is the fact that Terry is violating the requirement of informativeness—and is doing so in a way that cannot be detected by a naive listener. A naive listener would assume that Terry's message is fully informative when it is not, and that is what makes it deceptive.

How would a Gricean account differ? The deception involves an implicature: By saying only that Terry went to a party, a naive listener would be warranted in assuming that ordinary understandings are still in effect, e.g., that Terry did not take a date, did not kill someone, or did not do anything else unexpected or out of the ordinary that the listener would want to know about. In other words, what is deceptive here is not a covert violation of the Quantity maxim *per se*; it is the way in which the listener's assumption that Terry is saying all that needs to be said leads to a Quality violation at the level of what is implicated. Terry talks in a way that presumes there was nothing abnormal about the party—allowing the hearer to assume falsely that Terry went without a date.

The study reported herein replicates McCornack et al. (1992) in its focus on whether judgments of honesty/deceptiveness are based simply on violations of any of the four categories of maxims (as IMT would claim) or are based on the generation of false implicatures (as Grice would claim). If IMT is correct, for evaluations of messages involving manipulations of each type of maxim, the primary predictor of deceptiveness should be judgments concerning that type of violation. If Grice is correct and the quality of substantive implicatures is key to deception, then the primary predictor of judgments of deceptiveness should be ratings of Quality, regardless of the type of manipulation.

If the McCornack et al. (1992) manipulations are indeed covert, then respondents not provided the sensitive information contained in the original scenarios should neither perceive the messages as deceptive nor as violations of the maxims. If, however, perceptions *that* deception is occurring are cued by failures to construct plausible accounts of the way in which a message could be constructed in adherence

to the CP and its maxims, one should rate messages as both deceptive and as violations of maxims without having access to exactly *what* information is not true.

METHODS

Scenarios

In keeping with McCornack (1992) and McCornack et al. (1992), the hypothetical situations of "Upstate Terry" and "Committed Chris" were used in this replication:

"Upstate Terry" Scenario. You have been dating Terry for nearly three years. You feel very close and intimate toward her/him. Because you go to a different school than Terry, the two of you have agreed to date other people. Nevertheless, you feel fairly possessive toward Terry, and sometimes you feel jealous about him/her dating others. You see Terry only occasionally, however, you call each other every Sunday, and talk for an hour. **On Friday (unknown to you) one of Terry's friends invites Terry to a party on Saturday night, but the party is "couples only," and so in order to go to the party Terry needs to find a date. Terry thinks that there is no way possible for you to come down that weekend. Terry decides to ask someone from his/her comm class that he/she has been attracted to so that he/she can go to the party. The two of them go to the party, and end up having a great time.** That Saturday evening, you decide to drive down the following morning and surprise Terry. You try calling Terry several times, but there is no answer. You decide to drive down anyway. On Sunday afternoon, you drive down to Terry's school. Arriving at his/her apartment, you ring the doorbell. Terry answers, and you walk in and say: "I decided to come down and surprise you. I tried calling you all last night, but you weren't around."

"Committed Chris" Scenario. You have known Chris for over two years, and have been dating for over a year. Because of the length of the relationship, you feel very close to her/him. **Although Chris has not told you, his/her feelings towards you have recently begun to change.** You feel very jealous towards Chris, and the two of you have recently been arguing about almost anything. Although you are in the phase where you want to have a serious committed relationship, Chris feels like he/she wants to date others. **Unknown to you, Chris has recently been dating someone else. This other relationship has been a lot of fun, and has recently become more intense, both sexually and emotionally.**

One night when you and Chris are out, you are feeling really distant, and you are acting cold towards Chris. You suspect that Chris might be seeing someone else. You decide to confront the issue, and so you suddenly say to Chris: "Lately you've been acting really distant."

Scenario Evaluation. As an initial assessment of the comparability of the data obtained in this study with that obtained in the previous studies, we replicated McCornack's (1992) procedure for determining the "lie potential" of the Terry and Chris situations. Seventy-nine undergraduate students were asked to read and evaluate McCornack's (1992) "Upstate Terry" and "Committed Chris" scenarios during a regularly scheduled class period. After reading messages in which the roles of reader and Chris or Terry were reversed from those presented above, respondents were asked to describe how much they agreed with two statements: "I would be likely to produce a message in this situation that somehow distorts or withholds

relevant information,” and “It would be difficult in this situation to be completely truthful to my partner.”

For each statement, respondents rated their agreement on four 7-interval semantic differential scales (true/false, likely/unlikely, probable/improbable, and possible/impossible). According to McCornack (1992), all eight responses combine to form a single index of “lie potential.” A test of means resulted in no significant differences in “lie potential” between the Terry ($M = 29.87$, $SD = 11.02$) and the Chris ($M = 31.71$, $SD = 12.21$) scenarios $t(77) = -.70$, *ns*.

Materials

Respondents were asked to evaluate the two examples of each form of message manipulation (“baseline” and Quantity, Quality, Relevance, and Clarity violations) that followed the Terry and Chris scenarios in McCornack et al. (1992). To test whether or not these evaluations were based on “covert” violations of maxims a variation on the Terry and Chris scenarios was used in addition to the original format. In the original format employed by McCornack et al., respondents were provided with full information so that they could assess the degree of manipulation involved in any message example. As a variation on this “open” awareness condition, we created a “closed” awareness condition by rewriting the scenarios in a way that eliminated any mention of the deceptively manipulated “sensitive information.” The information reported in bold type above was deleted.

Respondents

Respondents were 1000 undergraduates enrolled in various undergraduate communication courses at a large southwestern university. All were volunteers and received extra course credit for their in-class participation. They were told that this project was “designed to examine perceptions of messages presented within relational situations” (McCornack, 1992, p. 21). Each respondent was assigned at random to one cell of the design, with 25 respondents allocated to each cell, and asked to rate a single message.

Independent Variables

The main independent variable was message form (i.e., type of violation). Two scenarios (Chris/Terry) and two actual messages per form within each scenario were included as replication factors. We added a manipulation of information condition (open/closed) to evaluate how well the materials embodied *covert* violations. The crucial design partitions were message form and information condition with independent groups assigned to replications in each cell.

Dependent Variables

This replication used the dependent measures of perceptions of honesty and competence used by McCornack et al. (1992). Results for the competence measure are not reported here since judgments of competence have no clear theoretical interpretation nor any significance for the issues raised in the investigation.

Manipulation Checks

As a manipulation check, McCornack et al. (1992) reported how respondents evaluated the form of information manipulation *only on the scales corresponding to the*

TABLE 1
COMPARISON OF MANIPULATION CHECKS BETWEEN STUDIES (OPEN CONDITION)

Manipulation	McCornack et al (1992)			Present Study		
	Mean	SD	t	Mean	SD	t
Quantity	11.69	5.28	19.09***	12.68	5.53	10.42***
Baseline	21.04	4.92		20.25	4.53	
Quality	7.17	4.25	33.58***	7.80	4.83	20.65***
Baseline	22.11	4.58		21.48	4.53	
Relevance	11.32	5.36	21.49***	15.00	6.02	7.11***
Baseline	21.91	4.79		20.55	4.97	
Clarity	11.09	6.56	18.22***	11.54	6.26	11.99***
Baseline	21.38	5.10		21.36	5.27	

***p < .0001.

alleged violation. In other words, for a Clarity manipulation, the only reported ratings of the message were in terms of the dependent measures and clarity. For the Quantity violations, only ratings of the dependent measures and Quantity scales were reported. Since it is important not only to show that a given message embodies the intended class of violation, but also to determine whether other types of violation are unintentionally produced, we had respondents rate all messages on all four dimensions, as well as on the two dependent variables using the scales reported in McCornack et al.

RESULTS

Manipulation Checks

A series of tests were performed to assess whether representative message examples of violations were perceived as different from the baseline "truthful" condition. Data from the corresponding scales indicate significant differences between violation manipulations and baseline messages (see Table 1). Examination of ratings on other scales revealed significant differences from baseline messages for *all* message forms on *all four* possible dimensions of manipulation (see Table 2).⁵

The pattern of scale means for each message form suggests that the effort to manipulate each maxim individually was not at all successful. Each manipulation led to perception that the messages *did* differ from the baseline in the intended respects,

TABLE 2
EXPANDED MANIPULATION CHECKS OF VIOLATION CONDITIONS (OPEN CONDITION)

Scale	Message Condition									
	Baseline		Quantity Violation		Quality Violation		Relevance Violation		Clarity Violation	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Quantity	5.11	1.76	3.18**	1.38	2.77**	1.17	3.30**	1.28	2.83**	1.52
Quality	5.38	1.12	4.93*	1.44	1.97**	1.21	3.50**	1.35	4.15**	1.42
Relevance	5.17	1.21	4.77*	1.39	3.40**	1.36	3.83**	1.47	4.37**	1.23
Clarity	5.36	1.30	3.64**	1.53	3.09**	1.37	3.38**	1.46	2.91**	1.55

*p < .05 for differences between violation condition and baseline.

**p < .001 for differences between violation condition and baseline.

TABLE 3
MEANS OF MANIPULATION CHECKS FOR COVERTNESS OF VIOLATIONS (CLOSED CONDITION)

Message Condition	Rating for Honesty	Rating for Intended Form of Violation	Corresponding Ratings	
			Open Condition	Baseline Condition
Baseline	5.19			
Quantity	4.88	3.71**	3.18	5.13
Quality	3.49**	3.51**	1.97	5.12
Relevance	4.26**	3.89**	3.83	5.27
Clarity	3.95**	2.92**	2.91	5.33

Note. Ratings in Open Condition are re-presented from Table 2.

** $p < .001$ for difference from baseline rating.

but our expanded manipulation check revealed that the messages also differed in the other dimensions as well. For example, the effort to manipulate Quality maxim violations affected judgments of Quantity, Relevance, and Clarity as well as judgments of Quality. The Quality maxim violation was the *strongest* manipulation for the so-called "Quantity" and "Relevance" message manipulations, as well as for the intended Quality type of message manipulation. The Quality maxim violation was the second strongest manipulation for the so-called "Clarity" type. In other words, the dimensions used by McCornack et al. (1992) to label these messages enjoy no priority in explanations for why these messages might be judged to be deceptive. The *appearance* that the labels fit may be simply the result of a confirmationist bias in procedure.

The covertness of the violations can be checked within the closed condition by comparing manipulation and honesty ratings of the baseline messages with those for the manipulated messages. These results appear in Table 3.

Contrary to the expectations of IMT, *all* manipulations were significantly perceptible and, with the marginal exception of Quantity violations, the manipulated messages were seen as significantly more deceptive than the baseline messages. The pattern of results for Quantity, Relevance, and Clarity violations is remarkably similar to the open condition and throws into question the effectiveness of the manipulation.

Differences in Perceived Honesty

McCornack et al.'s (1992) first research question focused on differences between the various forms of information manipulation (Quantity, Quality, Relevance, and Clarity) in terms of honesty ratings. Similar to McCornack et al., our planned comparisons with *t*-tests examined between-group differences in messages involving manipulation of information and the baseline messages. Messages labelled as manipulations of Quantity, $t(198) = 4.33$, $p < .0001$, Quality $t(198) = 20.18$, $p < .0001$, Relevance $t(198) = 10.45$, $p < .0001$, and Clarity $t(198) = 7.42$, $p < .0001$, were all viewed as less honest than the baseline messages.

Relationships Among Maxim Violations and Deception

The results indicated that the manipulated messages did significantly differ from baseline messages in perceptions of honesty. However, further analysis of the relationships *between* each form of message manipulation with the other forms produced additional findings. Messages labelled as manipulations of Quantity

TABLE 4
PEARSON CORRELATIONS OF VIOLATION RATINGS BY MESSAGE VIOLATION CONDITION

Quantity Violation Condition					
	Quantity	Quality	Relevance	Clarity	
Quantity	1.00				
Quality	.40***	1.00			
Relevance	.53***	.63***	1.00		
Clarity	.75***	.61***	.60***	1.00	
Honesty	.41***	.73***	.51***	.66***	
Quality Violation Condition					
	Quantity	Quality	Relevance	Clarity	
Quantity	1.00				
Quality	.34**	1.00			
Relevance	.52***	.56***	1.00		
Clarity	.72***	.21*	.43***	1.00	
Honesty	.41***	.81***	.48***	.23*	
Relevance Violation Condition					
	Quantity	Quality	Relevance	Clarity	
Quantity	1.00				
Quality	.59***	1.00			
Relevance	.50***	.51***	1.00		
Clarity	.73***	.61***	.57***	1.00	
Honesty	.53***	.67***	.49***	.57***	
Clarity Violation Condition					
	Quantity	Quality	Relevance	Clarity	
Quantity	1.00				
Quality	.60***	1.00			
Relevance	.56***	.62***	1.00		
Clarity	.89***	.60***	.53***	1.00	
Honesty	.68***	.75***	.60***	.60***	

* $p < .05$.** $p < .001$.*** $p < .001$.

differed from those labelled as manipulations of Quality $t(197) = 13.16, p < .0001$; Relevance $t(198) = 5.43, p < .0001$; and Clarity $t(198) = 2.45, p < .05$. Messages labelled as manipulations of quality differed from those of Relevance $t(197) = -2.00, p < .05$; and Clarity $t(197) = -11.50, p < .0001$. Finally, so-called Relevance and Clarity forms also differed in honesty ratings $t(198) = -3.29, p < .001$.⁶

The central issue is whether or not these differences in honesty/deceptiveness ratings were attributable to differences in the kinds of manipulations McCormack et al. used to label the message forms. The manipulation checks reported in Table 2 strongly call this assumption into question. If the Gricean theory of conversational implicatures is correct, then the perceptions of deceptiveness are attributable primarily to Quality violations arising from the generation of false implicatures. To answer this question, Pearson product-moment correlations were computed to assess initially relationships between each violation *within* each manipulation message form (see Table 4).

TABLE 5
STEPWISE MULTIPLE REGRESSION OF HONESTY ON VIOLATION RATINGS BY MESSAGE VIOLATION
CONDITION

Variable	b	B	Rsq	Rsq Change	F-ratio Change	p
<i>Across Violation Conditions</i>						
Quality	.74	.70	.704	.704	446.90	.0000
Quantity	.19	.16	.725	.021	26.93	.0000
Relevance	-.69	.07	.727	.002	4.49	.0344
<i>Quantity Violation Condition</i>						
Quality	.53	.46	.526	.526	35.64	.0000
Clarity	.38	.36	.600	.074	21.62	.0000
Message Example	2.97	.23	.649	.049	13.25	.0004
<i>Quality Violation Condition</i>						
Quality	.73	.76	.662	.662	153.51	.0000
Quantity	.14	.14	.680	.018	5.34	.0229
<i>Relevance Violation Condition</i>						
Quality	.62	.52	.452	.452	32.49	.0000
Clarity	.27	.25	.493	.041	7.90	.0060
<i>Clarity Violation Condition</i>						
Quality	.54	.53	.562	.562	49.14	.0000
Quantity	.35	.37	.647	.085	23.43	.0000

Several features of these data are noteworthy. There is a general pattern of strong intercorrelations among perceptions of violations for any message form. While this is not necessarily inconsistent with IMT, it is troublesome. It casts doubt on the idea that these dimensions have any independent or distinctive existence with regard to the interpretation of messages, which would be expected in a Gricean account of how interpreters constructively fashion message interpretations.

Even more troublesome for IMT is the pattern of correlations of Quantity, Quality, Relevance, and Clarity ratings with honesty/deceptiveness ratings. For every manipulation form, the Quality rating is most strongly correlated with perceptions of honesty/deception. This is precisely what the Gricean theory of conversational implicature predicts. Worse for IMT, for all but the Quality violation condition, the corresponding rating on that dimension was the *least* strongly correlated with perceptions of honesty/deception. When combined with the pattern of means reported in Table 2, these results suggest that Quantity, Relevance, and Clarity violations have no direct role in perceptions of deception.

To test further the contributions of various violations of maxims to judgments of honesty/deception a series of stepwise multiple regression analyses were performed. If IMT is correct, Quantity, Relevance, and Clarity violations should make contributions to deceptiveness independently of the way in which they invite false implicatures. The relevant results appear in Table 5.

As with the correlations reported in Table 4, the regression analysis failed to support the idea that violations of Quantity, Relevance, or Clarity play any clear or

direct role in determining the deceptiveness of a message. Only judgments of Quality were a strong overall predictor of honesty. Judgments of Quantity and Relevance added little to the explained variance. Clarity judgments made no significant independent contribution to honesty ratings.

Within each violation type, the independent contributions of Quantity, Relevance, and Clarity to judgments of honesty were not only small and secondary, but the pattern was highly inconsistent with the expectations of IMT. For each violation type, except Quality, the corresponding dimension of judgment made no significant contribution to the variance in judgments of honesty. For the Quantity violations, only Clarity judgments made any contribution to judgments of honesty beyond the contribution of Quality judgments. Quantity judgments made no detectable independent contribution. The importance of the individual qualities of the message examples outweighed judgments of Quantity even though Quantity violations were the targeted manipulation. For the Relevance violations, only judgments of Clarity made any independent contribution beyond Quality judgments. For the Clarity violations, only Quantity judgments made any noticeable contribution to predicting honesty judgments over and beyond those of Quality judgments. Clarity judgments themselves are indiscernible. In contrast, for each violation type, the contribution of Quality was consistent and substantial.

CONCLUSION

It should be clear that the basic claims of information manipulation theory lack credible empirical support. While it makes sense that deception involves *covert* manipulations of information, McCornack et al. (1992) have not shown this. While it also makes sense that covertly violating Grice's maxims should sometimes, somehow play some role in deception, McCornack et al. (1992) offer no empirical demonstration of this. Their study provides no reason to believe that deception occurs simply by covertly violating maxims so that listeners are misled into thinking that the maxims have been observed when they have not.

But this study is not simply a striking failure to confirm the predictions of IMT. Replication of this research, when conducted with appropriate methodological checks, does strongly support a quite different view of deception. The empirical evidence suggests that messages are deceptive when they violate the Quality maxim. By assuming that speakers are being cooperative and are satisfying the conversational maxims, hearers are misled into thinking they are justified in forming or continuing to hold beliefs that turn out to be false, or into thinking they are not justified in forming or continuing to hold beliefs that turn out to be true. The violation of the Quality maxim can occur at the level of what is said (i.e., a lie, fabrication) or at the level of what is implied. This latter sort of violation occurs when violations of maxims other than Quality lead hearers to draw false implicatures.

The empirical data also point to the importance of distinguishing two types of judgments: the suspicion *that* deception is occurring and the recognition of *what* the deception amounts to. As results from the closed conditions show, even when listeners have no independent access to a competing formulation of the context, they are able to judge from the text of what is said that a message is deceptive.

Clearly, further research and theorizing is needed to clarify how people decide that a message fails to satisfy conversational maxims. Especially crucial is clarifica-

tion of how, by violating maxims other than Quality, false implicatures are generated. IMT is an important first step in exploring these issues.

ENDNOTES

¹Contra McCornack (1992, p. 11), losing "information relevant to subtle message features" is not a special problem for "type/strategy" thinking. The problem dogs any coding method—as McCornack et al. (1992, p. 24) "ironically" admit. Hierarchical classification of individual messages, as well as prototypical gradings and combinations, can lead to as fine-grained an analysis as any multi-dimensional conceptualization allows. Moreover, type/strategy theorists can always display individual messages and commonsensically analyze subtle qualities of meaning as McCornack (1992) does with his examples.

²It could be argued that all implicatures arise from clashes of one sort or another—either among the maxims themselves or between the maxims or CP and other general principles of conduct (e.g., politeness—see Brown & Levinson, 1987) or special, situated motives (e.g., to withhold certain information).

³Unlike IMT, Grice (1975) hedges his claim: covert violations are liable to mislead "in some cases." So, covertness and violation alone are insufficient to make a message deceptive.

⁴Nor is it a position held by any neo-Gricean theories: Bach and Harnish (1979), Gazdar (1979), Horn (1978, 1984), Leech (1983), Levinson (1983, 1987), Sperber and Wilson (1986).

⁵Ratings in Table 2 are presented as means for the four message examples. Table 1 results are calculated as sums of means for comparable display with McCornack et al. (1992).

⁶Our results for differences in competence ratings were also similar to McCornack et al.'s results.

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