

PRAGMATICS — AN EMPIRICAL SCIENCE ?

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0. In this essay I will concentrate on the study of natural languages, and I will consider pragmatics as a branch of the investigation of natural languages. Right now, however, there seems to be considerable disagreement about what kind of theories will fall within the field of pragmatics even limiting oneself to the study of natural languages.

Originally the term pragmatics was introduced by Charles Morris as a part of the theory of signs¹. A natural language can be viewed as a special case of the function of signs, and therefore Morris' definition of pragmatics is applicable to the study of natural languages. To settle the disagreement about the proper definition of pragmatics — I think — one must go back to Morris' definition from 1938, since he has the historical right to the term. One should try to find a fruitful conception of pragmatics that falls within the bounds of Morris' definition. Morris defined pragmatics somewhat elaborately as the subject of the study of the relation of signs to interpreters. It is the reference to interpreters that sets pragmatics apart from syntax — which Morris defined as the subject of the study of the relations of signs to one another — and semantics — which Morris defined as the subject of the study of the relations of signs to the objects to which signs are applicable. The first clear statement of these distinctions applied to the study of natural and artificial languages is due to Rudolf Carnap, where he made it clear that a pragmatic theory can include syntactic and semantic elements².

0.1. With a few exceptions linguistics is now generally considered to be an empirical science. As a component of the study of natural

languages pragmatics might quite naturally be considered as a branch of this empirical science. Some conceptions of pragmatics, however, do not seem to fit within the framework of an empirical science³. Viewed this way pragmatics seems rather to be a branch of a normative science dealing with rational communication. If pragmatics is conceived in this way, its theories cannot be falsified by data based ultimately on the observation of human behavior. Since a large part of the linguistics literature is concerned with confirming and falsifying theories by using empirical data, it is crucial to notice that this kind of activity is not relevant to determine the truth-values of pragmatic theories viewed as normative theories. Empirical data might still be relevant to such theories, because they would impose boundary conditions on reasonable norms. For example norms concerning rational communication that could not even approximatively be realized by human beings would clearly be uninteresting but not really false.

0.2. Now I will present a short outline of this essay. First, I am going to discuss what turns out to be Paul Grice's concept of rationality and how it is related to the idea of an empirical science. I will argue that this notion of rationality is a normative concept not part of an empirical science. If pragmatics is part of an empirical science, it cannot be part of a theory of rational communication. Secondly, I will consider the consequences if pragmatics is viewed as an empirical science, and thirdly, I will consider whether pragmatics can reasonably be viewed as a part of this theory of rational communication. Finally, I will try to evaluate which alternative seems most reasonable.

1. To begin with I will consider the concept of rationality in some theories of rational communication. Rationality in the context I have in mind has clearly to do with the effectiveness of communication, rational communication being the most effective way to communicate messages between persons. Effectiveness of communication increases when fewer errors are possible in the transmission, and the length and complexity of the process of transmission is minimal. I believe that these general remarks characterize adequately for my purposes the notion of rationality that is involved here, but this notion of rationality is naturally only one of the many possible ones.

The question is now whether this concept of rationality can occur within the framework of an empirical science. In order to consider this I will first contrast the notion of an empirical science

with the notions of normative science, formal science and non-scientific disciplines. I take a prototypical empirical science to be physics, a prototypical normative science to be game theory as it was developed by John von Neumann and Oskar Morgenstern, a prototypical formal science to be pure mathematics and a prototypical non-scientific discipline to be theology. In contrast to the other types of disciplines I mentioned, it is generally agreed that a hypothesis of an empirical science is falsifiable, or at least disconfirmable by evidence based on observation⁴. The evidence can always be traced back to sensory observation by causal chains, but it is not customary in science to actually carry out this program. Furthermore one has to keep in mind that this evidence is always theory laden, since the causal chains that connect this evidence with the sensory observation can only be established by using other theories. I am going to call the kind of evidence I mentioned empirical evidence. To conclude, the question here is whether a pragmatic theory which is part of a general theory of rational communication can be falsified by empirical evidence. If a pragmatic theory conceived in this way can be falsified by empirical evidence, then this concept of rationality can indeed occur within the framework of an empirical theory. On the other hand, if such a pragmatic theory cannot be falsified by empirical evidence, then this concept of rationality must be of a different kind than terms of an empirical theory. This is the case, because this concept of rationality is the only notion in this connection that looks as if it might not be appropriate within the framework of an empirical theory.

Let me make a thought experiment testing a pragmatic theory as a part of a rational theory of communication. Assume that actual human verbal communication fails clearly to satisfy the requirements of effective transmission of thoughts that a formally impeccable pragmatic theory of this kind describes. Has this pragmatic theory been falsified by the empirical evidence in this case? Clearly not, this only shows that human beings do not communicate in a rational way according to this theory. The point is that there is no way to falsify this concept of rationality by empirical evidence. This fact shows adequately that this concept of rationality prescribes some standards of effective communication that may not be realized in the actual world. Hence this concept of rationality is a normative notion not subject to falsification by empirical evidence.

1.1. To reiterate, it is generally agreed — with a few exceptions — that modern linguistics is and should be an empirical science. I think that the researchers that claim that linguistics is not an empirical

science are simply mistaken, but to refute them falls outside the scope of this essay⁵. I simply assume, therefore, that linguistics is and should be an empirical science. The scientific study of language is, however, not confined to linguistics. Parts of psychology, sociology, artificial intelligence and philosophy are, for example, also concerned with language, and when these subjects overlap with linguistics this kind of study belongs to at least two disciplines. Within these areas of study I assume that various theories of natural languages will be formulated, and I will call this interdisciplinary field the theory of natural languages. This field — I claim — is and should be viewed to as an empirical science. Some philosophers will find it strange that there are branches of philosophy that are empirical sciences, but I claim that this is in fact the case. I believe that most researchers familiar with semantic theories purposed for natural languages within philosophy would agree with me that these theories are empirical theories. A prototypical case would be the work of Terence Parsons in this area⁶. Hence there exist philosophical theories that are empirical theories. I do not claim that all philosophy of language falls within empirical science. On the contrary, I will, for example, mention some of Grice's work in the philosophy of language that falls outside the boundaries of empirical science. I maintain, however, that all theories that are part of what I call the theory of languages, do and should fall within the scope of empirical science. In this connection, finally, it is not necessary for me to precisely delimit what work belongs to the theory of natural languages and what does not. It will suffice to point out some core areas like psycholinguistics, sociolinguistics, computational linguistics and formal semantics for natural languages which definitively must be included in this field.

My central claim is not that if pragmatics is and should be part of the empirical content of the theory of language, it too must be an empirical science, since any subfield of the empirical content of an empirical science must itself be an empirical science.

1.2. As I mentioned before there is adequate evidence that the concept of rationality I discuss in this essay is a normative concept, since it prescribes certain standards of effective communication, and it is not falsifiable by empirical evidence. There is, however, one possibility that this concept of rationality can specify the boundaries of an empirical science although it is not part of the framework of any empirical theory. In this way a normative concept can play a role within an empirical science, although it is not directly part of any empirical theory. The question here is what kind of disturbing

influences is one supposed to disregard to get at the heart of the subject matter of interpersonal communication. The Chomskyan notion of competence functions as an idealized boundary condition of this type for grammatical theories. This notion of rationality might play an analogous role for pragmatic theories. The question is whether these two notions are really on a par vis-à-vis the notion of an empirical science ? I claim that they are not. First, competence is supposed to help one to disregard psychological limitations that are not central to the language faculty, while this notion of rationality excludes more than peripheral phenomena in communication. The ability to convey only suitable information to somebody in order to not hurt his feelings is a typical characteristic of human communicative competence, but this capacity might actually prevent the most effective transmission of information. Furthermore, these functions of human communication are not misuses of normal communication such as lying and deceiving are. Secondly, the difference between actual language performance and competence cannot be too great. If competence is in most cases not even an approximation of actual language performance by native speakers, the notion of competence would not be considered to be an idealized condition of common actual usage⁷. Rational communication is not even an ideal in many situations and some cultures. The ideal might be, for example, to make the best impression on somebody instead of giving complete relevant information damaging your position.

I conclude, the notion of rationality being considered in this paper cannot even be a boundary condition for an empirical science in this case. This theory of rational communication cannot, hence, be an empirical science, since it contains ideas that can play no role in the relevant empirical science.

1.3. Pragmatics has been viewed as a part of the theory of natural languages and simultaneously also a part of this theory of rational communication in many recent works. The best known rationality criteria that have been proposed for pragmatics are the Gricean maxims, which I will discuss later. Gerald Gazdar has, for example, extended their application to supposedly empirically oriented pragmatics in his book *Pragmatics*⁸. By this extension of their application he also separates these maxims from their Gricean context. Since his attempt is the most thoroughly worked out proposal in this respect, I am going to concentrate on his type of work when I discuss pragmatics viewed as a normative science. In this type of work I do not want to include others that have been more careful in their formulations.

It is important to consider here that Grice's maxims have had a considerable influence on work in pragmatics and that the authors using them are numerous. I choose, therefore, to only mention the best example of this work, which should represent adequately a recent trend in pragmatics. Because of lack of space I have unfortunately to assume now that the reader is familiar with Gazdar's theory. For example, on p. 58 in the book Gazdar clearly incorporates one of Grice's maxims in a supposedly empirical theory, and he takes the maxim out of its Gricean context by this move. To conclude, Gazdar's term *im-plicature* looks attractive, since its plausibility depends on a special version of Grice's maxim of quantity⁹. Considering that this maxim is not an empirical notion, the term *im-plicature* lacks real empirical content, i.e. it is impossible to refute an alleged *im-plicature* that conforms to his definition (IV) by citing empirical data. For example, consider a speech community where the phonology, syntax and semantics are used in a uniform way, but where the language users have different intentions and beliefs which are not adequately listed in the available texts. This picture of the language background seems to be compatible with Chomsky's concept of an ideal situation for natural language investigation. Gazdar's view as I understand it — that a natural language investigator does not only have access to some kinds of spoken or written language material but has also a miraculous ability to look directly inside the heads of all speakers via the notion of extra linguistic context — goes against a long linguistic tradition. According to this tradition the speaker's mind is not part of the empirical data directly accessible to the language investigator. Instead the way in which the speaker's mind works has to be reconstructed from the available empirical data based on texts, analyses of discourses, elicitation tests, etc. Based on this indirect evidence a language investigator can more or less adequately reconstruct for himself what goes on in the mind of a speaker, but his success depends largely on the quality of the indirect data he has to begin with. Assume now that a member of that speech community, A, says: "I believe that X is an immoral act." Assume in addition that A is an extreme ethical subjectivist, who holds that basic beliefs about moral norms amount to the same thing as knowledge about these norms. When A says "I believe that X is an immoral act" he is in no way prepared to accept the sentence "I do *not* know that X is an immoral act." Yet according to Gazdar's definition the latter sentence is clearly *im-plicated* by A's first sentence¹⁰. Now when A utters the first sentence he may insist on talking to everybody about moral beliefs as an subjectivist reformer. For the sake of the

argument assume that this is his explicit intention. Therefore, A intentionally violates Grice's maxim of quantity, and Gazdar's notion implicature is inappropriate in this case. In this example the texts also fail to supply enough evidence to cancel this implicature, but the idea to cancel implicatures is an unfortunate one to begin with. It is clearly unsatisfactory to first wildly overgenerate implicatures and then try to cut down their number by an extremely strong device relying even on a complete knowledge of all relevant extralinguistic contexts as Gazdar seems to do. The point is that no implicature should have come into existence in this case. My example has, however, not falsified the theory of implicature, it has only shown that the notion is not always suitable. What my example shows is that real *implicatures* are not independent of the intentions and beliefs of specific language users, and these intentions and beliefs may be only partially known to the language investigator.

1.4. Given what I have said previously, I can conclude now that pragmatics has to be viewed either as part of the theory of natural languages excluding the study of rational communication in which case it is an empirical science or as a part of a normative study about rational communication but not both. The many proposals to include a notion of rational communication within pragmatics viewed as an empirical science are therefore simply mistaken. In the following section I am going to explore the consequences of this conclusion.

2. To begin with I will discuss the view that pragmatics is an empirical science and part of the theory of language.

2.1. First one can distinguish different levels of pragmatics. I think that there are essentially three levels of pragmatics and distinguishing between them will help one to get an understanding of the subject viewed as an empirical science. The work of Richard M. Martin suggested to me that I should look for levels of pragmatics¹¹. Since, however, I do not agree with Martin's specific proposals, I will put forward my own classification¹².

The first level of pragmatics is concerned with language users — i.e. speakers/hearers — relation to the syntax, semantics and phonology of the natural language they use. By relations I mean here relations external to the mind of the users that the total grammar requires. To the first level belong the function of indexicals, anaphora to persons not present in the text, intonation to put emphasis on desired elements etc.

The second level of pragmatics is concerned with the users internal relations — i.e., the relation in the mind of the users — that hold between the users and their social context. Presuppositions and merely suggested meaning belong to this level. Normally language investigators do not have direct access to the information at this level but have to reconstruct it from available empirical data.

The third level of pragmatics is concerned with the communication going on between users of the language in question. By the communication I mean all kinds of exchange of ideas that take place. At this level it is natural to disregard communication errors and study the competence of human verbal communication. That does not — as I discussed earlier — involve any notion of rationality in the sense of effective transmission of information.

In determining all these functions of the language use both linguistic and extra-linguistic contexts play an essential role.

My classification shows that many phenomena regarded as part of pragmatics are part of pragmatics viewed as an empirical science.

2.2. What is missing are the Gricean maxims and all conclusions based on them and similar concepts. I want to make it clear that by excluding normative notions from pragmatics, the field does not become empty. Far from it, there is ample research to be done in many areas that are already recognized as being part of pragmatics. In the end each study has to be considered separately to see, whether it falls within the domains of empirical science. My purpose here is to create an awareness of this problem.

3. At this point it is appropriate to consider pragmatics viewed as a part of the theory about rational communication discussed earlier and not part of the theory of languages.

3.1. The first question is what kind of rational communication do the Gricean maxims suggest? To answer this I have to discuss the maxims in detail¹³. The maxims are 1) quantity i.e., make your contribution as informative as is required for the current purposes of the exchange and do not make your contribution more informative than is required; 2) quality i.e., try to make your contribution one that is true especially by not saying what you believe to be false and do not say that for which you lack adequate evidence; 3) relation i.e., be relevant; 4) manner i.e., be perspicuous especially by avoiding obscurity of expression, avoiding ambiguity, being brief, and being orderly. It is, however, reasonable and rational to violate all these maxims — especially if these maxims are taken out of their

Gricean context as Gazdar does — and expect the other persons to do the same, and this is not an enterprise parasitic on normal communication. For example, take first quantity. You will probably be prudent to be less informative than required when being asked by your competitors about business. Secondly, take quality. When telling children or depresses people about some sordid facts you might be well advised to tell what is not true. Thirdly, take relation. Questioned about circumstances you do not want to disclose being irrelevant might be a way out. Fourthly, take manner. Diplomats frequently use obscure language to get treaties accepted with good reasons. The gesture of signing a treaty might be more important than actual agreement about the details. Being disorderly might create a suggestive effect which the reader picks up easily. The effect could be comic or convey a feeling. This shows adequately — I believe — that the Gricean maxims are intended to facilitate effective transmission of information between parties that want to maximize the exchange of descriptive meaning with minimal effort. That is hardly typical of most normal human verbal communication. The Gricean maxims are clearly normative in nature and cannot be falsified by citing counterexamples that actually have taken place. This shows that they cannot function as terms in an empirical science. Neither can these maxims be considered as idealizations of actual verbal communication, since they run counter to central human intentions with communication in the cases I discussed before. Grice, in order to study the most effective exchange of information, had to standardize the human intentions in his maxims. These maxims can, hence, play no role in the framework of an empirical science. Of course, it is an empirical task to study if people observe these norms or not, but that does not make them part of the framework of any empirical science. My last remark here is that even of concepts based on the Gricean maxims cannot be falsified, they can still be made to look absurd, but making look absurd is not the same as falsifying.

In this connection I want also to suggest that a notion of implicature can very well be studied without recourse to the Gricean maxims, but to discuss this matter in detail falls outside the scope of this paper. I suspect, however, that implicatures are connected with subjective probability estimates.

The second question is this : what is a theory of rational communication like and on what grounds should one reject or accept it ? Besides formal acceptability, the theory must have some intuitive appeal to be acceptable. That is not all that is required, but right now it is hard to say anything more, because nobody I am aware of

has proposed an adequate theory of rational communication. The attempts Jürgen Habermas made are too schematic and informal to be of much help¹⁴. When he presents schematic overviews of all human communication he fails to present much supporting evidence. He should at least try to prove that his schemas are exhaustive. Unfortunately, I find often his discussion to be unconvincing¹⁵. What is needed is something similar to formal work in game theory. An axiomatized and motivated version of rational theory of communication would elucidate the problems in this normative field.

3. As I mentioned an adequate theory of rational communication does not exist today. That makes it hard to evaluate the view that pragmatics should be a part of a discipline about rational communication. I am sceptical, however, that an adequate theory of rational communication will be proposed in the foreseeable future. That makes it hard to see the value of pragmatics as a normative discipline during the same time period.

4. To conclude, it seems to me that pragmatics as a normative field of study is unpromising at the present stage. In contrast, pragmatics as an empirical science seems to have a bright future. I believe, therefore, that pragmatics should be an empirical science on a par with semantics, syntax and phonology. As I mentioned earlier this proposal will have farreaching consequences for research and theory formation in pragmatics.

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REFERENCES

¹Charles Morris. *Foundations of the Theory of Signs*, (1938).

²Rudolf Carnap. *Introduction to Semantics*, (1962).

³I have intentionally not mentioned the work by Asa Kasher, since it is not clear to me whether pragmatics is an empirical science or not according to his views. For example, Kasher's rationalization principle in "Conversational Maxims and Rationality" in *Language in Focus*, (1976) p. 210 edited by Asa Kasher is hard to evaluate. I do not know how a rational agent communicates. I find consequently Kasher's definition too unspecific. Likewise I do not know what he means by "linguistically appropriate". See Asa

Kasher, "Mood implications : A logical Way of doing Generative Pragmatics" in *Theoretical Linguistics*, No. 1/2, 1974, p. 7 and p. 19. To me it seems that linguistical appropriateness has to be clearly defined and exemplified, before it can be used to explain other pragmatic concepts. Until Kasher published a more extensive version of his work, it is too early to evaluate it. Therefore I have avoided to discuss Kasher's work in this essay, but I look forward to see an explanation of his idea of ideal speakers in perfect speech-communities.

⁴Among the sources one can consult are : Mario Bunge. *Meta-scientific Queries*, (1959), p. 33; Peter Caws. *The Philosophy of Science*, (1965), p. 137; Carl G. Hempel. "On the Nature of Mathematical Truth", (1945), p. 37; *Readings in Philosophical Analysis*, (1945) edited by Herbert Feigl and Wilfried Sellars (1949); Karl Popper. "The Demarcation between Science and Metaphysics", (1955) in *Conjectures and Refutations*, (1962).

⁵The main exception is Esa Itkonen. See for example, his "Was für Wissenschaft ist die Linguistik eigentlich" in *Wissenschaftstheorie der Linguistik*, (1976) edited by Dieter Wunderlich. In this and numerous other publications he has put forward his views that deviate considerably from the customary ones.

⁶Terence Parsons. *A Semantics for English*, (1972) unpublished draft. This is an early but rather complete statement of Parson's views. This draft remains the most complete treatment of English syntax and semantics that Parsons has presented.

⁷It might still be considered as an idealization for special cases.

⁸Gerald Gazdar. *Pragmatics*, (1979) is the best worked our proposal according to those lines. The relevant parts here are pp. 55–62.

⁹On p. 55 Gazdar explicitly admits that his notion of implicature is based on Grice's maxim of quantity.

¹⁰On p. 58 Gazdar says that "..., know, believe, ..." is a scale, and on p. 61 in his examples (71) and (72) he uses this scale.

¹¹Richard M. Martin. *Toward a Systematic Pragmatics*, (1959), p. 9, is where he discusses the notion of level of pragmatics.

¹²See Martin op. cit. It seems to me that Martin's first level of pragmatics presupposes the third level of pragmatics. I do not want to put stress on this idea of presupposition, but Martin himself seems to do it. It looks, therefore, that by his own standards his levels of pragmatics are suspect. Instead I lay stress on the degree of complication of the phenomena at each level by putting the least

complicated ones on the first level and so on.

¹³Paul Grice, "Logic and Conversation", (1967) in *Syntax and Semantics Volume 3* edited by Peter Cole and Jerry Morgan, (1975). See pp. 45–47.

¹⁴Jürgen Habermas. "What is Universal Pragmatics", (1976) translated by Thomas McCarthy in *Communication and the Evolution of Society*, (1976).

¹⁵See op. cit. footnote 2, pp. 208–210, p. 32, p. 40, the discussion on pp. 2–4 etc. For example, Habermas gives no argument why reaching understanding must proceed along the lines on pp. 2–3. Much communication and understanding can go on even when the speakers do not trust each other. A psychiatrist interviewing a reluctant patient can still get much information from the patient. Habermas fails to discuss such prima facie counterexamples to his claim. Moreover, I think Habermas fails to understand the function of hypothetico-deductive scientific method. Empirical theories can be used as explications when they achieve an adequate degree of confirmation, but empirical hypotheses are clearly not explications in the normal sense. An explication is obviously not an empirical theory, and Carnap made this quite clear. This oversight makes Habermas' discussion of empirical sciences hard to accept. See pp. 8–20 in op. cit.