

# Introduction

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It is a privilege and a pleasure to be asked to write an introduction to this collection of papers by my former teacher and colleague L. Jonathan Cohen. Jonathan Cohen's career to date as a professional philosopher has spanned more than fifty years. During this time he has produced a very large body of extremely influential and important work – indeed, a great deal of it seminal and groundbreaking – in philosophy of science, the philosophy of induction and probability, epistemology, philosophical logic, the philosophy of language, jurisprudence and political philosophy, among other fields. The papers in philosophy of language and epistemology which make up this volume exhibit all the qualities most characteristic of Cohen's work: originality and insight, a distinctive analytical perspective, great clarity, rigour and cogency of argument, elegance and wit. Their reproduction here will, I hope, be a stimulus to new work on a wide range of important topics.

With the obvious exception of the previous paragraph, I have written this introduction in consultation with Jonathan Cohen: I hope that that has saved me from misrepresenting his views. But, of course, it should not be taken as a statement of his own overview of the papers. As to how it reflects my own views, it would obviously be inappropriate for an introduction of this sort to stray into becoming a critique: so, in summarising the papers, I have resisted the strong temptation to add comments of my own, except in a couple of clearly signalled instances.

It would be a mistake to see these twenty papers, written over a period of more than forty years, as part of a single consciously unified project. Nevertheless, there is a great deal of continuity and thematic unity as the papers move through philosophy of language via general epistemology to confirmation, induction and probability. It is, perhaps, easier to see this continuity by tracing a route backwards through the papers (not chronologically, but as they appear here). The last group of papers is largely

concerned with how empirical knowledge may be acquired through evidence in states of uncertainty. The middle group explores how such evidence often requires or results in conceptual innovation and is given to us in language the meaning of which is not always easy to determine. The first group asks how a theory of meaning can be constructed both for natural and for artificial languages. {That is, so to speak, the logical ordering of the thought behind each paper: the present order has been chosen to facilitate thinking one's way into the issues.} This thematic unity is underpinned by Cohen's common commitment to the richness both of language and of enquiry and his pluralist opposition to simplistic and dogmatic formalizations such as are offered by certain kinds of compositional semantics and by monistic interpretations of probability. In the remainder of this introduction, where I summarise each paper in turn, I shall regularly draw attention to the many connections among them which are generated by these threads which run through much of Cohen's philosophy.

The first ten papers focus on issues in the philosophy of language.

Paper 1 (*On the Project of a Universal Character* [1954]) begins by attacking a widely held view that Leibniz was the solitary originator in the seventeenth century of the project of developing a 'universal character' – an artificial language, suitable for the new science of the day. Leibniz intended his universal character to fill three main roles. It was to be an auxiliary language facilitating communication between scientists of different nations; it was to act as a simplified notation for science; and it was to be an instrument for discovery and demonstration. But a number of Leibniz's contemporaries and predecessors also articulated and attempted to carry out just such a project. Bacon [1605, 1623] and Descartes [1629] both discussed its possibility and desirability; from Descartes' time onwards the project seems to have become a commonplace, with numerous writers – the best known being Mersenne, Dalgarno and Wilkins – carrying it through in some detail and with a clear commitment to the need for a universal character to fill the three roles Leibniz identifies. What was distinctive about Leibniz's position was solely his conception of a calculus (independently important as a progenitor of modern formal logic) which would operate on the formulae of his character so as to lay bare the implications of what was already known. Cohen argues that the failure of these seventeenth-century projects – which contributed nothing towards either enhancing international communication or promoting scientific discovery – has implications for how we now ought to view the relationship between science and language. It is a fundamental mistake, he says [p. 11] "to think that the same language could serve adequately both as an unspecialised international

auxiliary and also as a scientific terminology". Unspecialised languages need a range and flexibility of meaning – ambiguities and all – which would be inappropriate to a specialised scientific notation. Thus, we should avoid any temptation to suppose that there is a set of compatible ideals in the light of which we could and should generate a 'perfect language'.

Paper 2 (*On a Concept of Degree of Grammaticalness* [1965]) has two main aims: first, to distinguish degree of grammaticalness (a concept emerging from discussions of generative grammar) from relative intelligibility; secondly, to explain the former by use of a theory of evidential support which accounts for the non-statistical character of generative grammar.

In *Syntactic Structures* [1957] Chomsky compared sentences like "John enjoyed the play and my friend liked it" to sentences like "John enjoyed and my friend liked the play". The latter could hardly be termed wholly non-grammatical, but in speech it shares numerous features with the reading aloud of wholly non-grammatical strings of words. This suggests that there is a sense in which the former sentence is more grammatical than the latter. Chomsky attempted to characterise degree of grammaticalness in terms of a hierarchy of the categories appearing in the rules of a generative grammar. Katz [1964] attacked these efforts at a purely syntactic theory of partial grammaticalness, arguing that a semantic component is also required which will account for the typical ambiguity of semi-sentences (those strings of a language  $L$  not generated by an optimal grammar of  $L$  but with sufficient structure to be understood by speakers of  $L$ ). Cohen argues that Katz's view lacks all bite unless it identifies intelligibility with degree of grammaticalness. But there are simple and powerful counterexamples which show any such identification to be strongly counterintuitive. Instead, what is needed is a scale of intelligibility independent of non-semantic scales of grammaticalness.

How then should the degree of grammaticalness of a string in  $L$  be calibrated? Cohen suggests that it may be equated with the highest degree of evidential support obtainable for the statement that this string is fully grammatical. A small number of intuitively plausible assumptions show, he argues, that degree of evidential support in this context cannot be taken to be mathematical probability as standardly conceived. Instead, it is necessary, and possible, to define confirmation-functors for generative grammars which have different properties from mathematical probabilities: they turn out to have what Cohen later called a 'Baconian' structure (see the last third of the papers in this collection, as well as his books *The Implications of Induction* [1970] and *The Probable and the Provable* [1977]).

Paper 3 (*The Semantics of Metaphor* [1979]) argues that the nature of metaphor is a linguistic problem which requires clarification via the study of sentence-meaning rather than the study solely of speech-acts. It can be seen to be a linguistic problem by noting that it is characteristic of natural language sentences like "He is a lion" which can be read metaphorically as well as literally that they are indefinitely rich in possible meanings: whereas most artificial languages must lack any possibility of metaphor. However, it is not a problem which can be solved purely within a theory of speech-acts. Standard kinds of speech act such as promising, apologizing and so on are overridden when one moves from direct to indirect speech – when I report your apology I am not myself apologizing. But if I report that you said that he is a lion the metaphorical content is not overridden in this way: my report can be understood only by someone who understands the metaphor. So, "metaphorical meaning inheres in sentence-meaning, not just in speech acts." (p. 29)

One possible account of metaphors would then be to suggest that a term used metaphorically simply has a different meaning from that in its literal use: metaphor reduces to polysemy. Cohen rejects this "method of multiplication" in favour of a "method of cancellation". These rival methods may be applied to nonmetaphorical cases too. For instance, in most uses of the term "insult", a particular kind of intention is presupposed. If we take it that the sentence I: "It was an unintentional insult" is not self-contradictory, the method of multiplication claims that the term "insult" here is a different lexeme from the term as standardly used. The method of cancellation, Cohen argues, ought to be preferred on the grounds of lexical parsimony: it claims that in sentence I the feature + INTENTIONAL, normally part of the sense of "insult", is cancelled by the adjective "unintentional" but we have no need to suppose two distinct lexemes.

In earlier work (Cohen & Margalit [1972]) Cohen claimed that metaphor likewise involves feature cancellation, distinguished from the non-metaphorical cases by always being the cancellation of semantically important features. He continues to insist (contrary to, for instance, Wittgensteinian family-resemblance theories of meaning) that an adequate semantic theory for natural language must assume some kind of importance-ordering for semantic features. But he no longer adheres to the [1972] basis for distinguishing metaphorical from nonmetaphorical feature-cancellations: he instead suggests making use of a topic-comment distinction within sentences in which cancellation occurs to yield an analysis of most metaphorical uses of expressions. Even then, though, the richness and variety of the deployment of metaphors in nat-

ural language suggests that it will be a complex and difficult task to construct a rigorous and adequate theory of metaphor.

Paper 4 (*Can the Logic of Indirect Discourse be Formalised?* [1957]) considers attempts over the preceding ten years by Carnap and Church to provide formalizations which will exhibit the logical structure of everyday utterances. In these formalizations, semantic antinomies arising from indirect discourse are supposed to be avoided by using a hierarchy of language-levels. But this method of analysis seems to lead to problems in the treatment of sentences such as *P*:

“If the policeman testifies that anything, which the prisoner deposes, is false, and the prisoner deposes that something, which the policeman testifies, is true, then something, which the policeman testifies, is false and something, which the prisoner deposes, is true.”

There are good reasons for accepting that *P* is a non-trivial logical truth. But whether we adopt, modify or abandon a hierarchy-based analysis, comprehensive formalization of statements like *P* appears to be extremely difficult, if not impossible.

Cohen argues that this is not merely a technical difficulty which a more sophisticated formalization may be expected to resolve. We may not often utter sentences like *P*. But in judicial or historical investigations, as well as in everyday discourse, we often incorporate, as *P* does, statements about a witness's truthfulness alongside the report of his testimony, as premisses in an argument about the facts which seems to require us to jump from one level of statement to another. It is such arguments, Cohen claims, not the natural languages in which they are expressed, which constitute the proper objects of formalization. Once this is accepted, the idea, or ideal, of a single hierarchy of formalized languages in which one could articulate every logical truth that can be uttered in a natural language ceases to hold any appeal.

Paper 5 (*Some Remarks on Grice's Views about the Logical Particles of Natural Language* [1971]) and paper 6 (*Can the Conversationalist Hypothesis be Defended?* [1979]) attack the hypothesis, which Grice broadly endorsed, that the familiar logical particles of natural language ('not', 'and', 'or' and 'if ... then ...') do not diverge in meaning from the standard interpretations of the corresponding formal-logical symbols ( $\sim$ ,  $\wedge$ ,  $\vee$  and  $\rightarrow$ ). On this view, which Cohen calls the Conversationalist Hypothesis, apparent divergences are due to pragmatically grounded standing presumptions about conversational utterances which generate conversational and conventional implicatures.

Cohen argues in paper 5 that we should instead prefer what he calls the Semantical Hypothesis: that some occurrences of these particles do diverge in meaning from the corresponding symbols, while some do not, and both cases should be explained within a semantic theory of

Knowledge and Language

Selected Essays of L. Jonathan Cohen

Cohen, L.J. - Logue, J. (Ed.)

2002, XXVIII, 324 p., Hardcover

ISBN: 978-1-4020-0474-2