

Comments and Reviews

Sartori, G., ed., *Social Science Concepts. A Systematic Analysis.*

London: Sage Publications, 1984, 451 pp.

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Many efforts have been made to lay new and promising foundations for the social sciences. The most well-known and important example is, of course, the introduction of quantitative methods and (quasi-) experimental designs. In a new book, edited by Giovanni Sartori, another fresh start is made. Proceeding from the assumption that concepts are the building blocks of thought, a method is developed for the systematic analysis of concepts. One important explanation for the unhappy state of the social sciences is conceptual confusion. Unambiguous concepts with exact references are necessary elements of scientific progress, it is argued. My purpose here is to present the basic ideas of this approach and to offer some critical comments.

In the first chapter Sartori propounds guidelines for concept analysis. In the following chapters a number of key concepts in the social sciences — such as development, integration, political culture, and power — are scrutinized by Sartori's colleagues in the Committee on Conceptual and Terminological Analysis (COCTA). The concepts are analyzed by the application of Sartori's rules.

A crucial premise of the Sartorian approach is that clear thinking requires clear language and, in turn, that the latter demands explicit definitions. The analysis of concepts as the basic unit of language — and, accordingly, of knowledge — relies on a separation between (1) words (terms), (2) meanings (connotations) and (3) referents (denotations). According to Sartori, the two

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A crucial premise of the Sartorian approach is that clear thinking requires clear language and, in turn, that the latter demands explicit definitions. The analysis of concepts as the basic unit of language — and, accordingly, of knowledge — relies on a separation between (1) words (terms), (2) meanings (connotations) and (3) referents (denotations). According to Sartori, the two

following questions are of utmost importance: How do meanings relate to words? How do meanings relate to referents? The relation between meanings and words can either be ambiguous or clear. The relation between meanings and referents can be undenotative (vague) or adequate. One main purpose of Sartori's semantic approach is to lay down rules aiming at reducing or eliminating these two defects — ambiguity and undenotativeness. This purpose is achieved primarily by *defining*. A definition is, in Sartori's view, an intellectual act through which 'the object is seized', that is, the relevant object is identified. A satisfactory definition of, say, power would accordingly catch one of the many meanings of this highly ambiguous term and, further, facilitate the identification of cases of power.

Sartori claims that a concept is its meaning (connotation). It is the meaning that decides the referent. An example may illustrate this point. The concept of power can be defined as follows: A has power over B = def (1) A gets B to do something that B would not otherwise do. We may add a second component (2) B does what A wants B to do, and a further component (3) what B does conflicts with B's real interests. Now, a definition that only contains (1) is *one* definition of power. If we add (2) and/or (3) to this definition we receive *different* definitions. Obviously, the meaning of the concept of power is determined by which conceptual component(s) in set (1)-(3) is (are) chosen. Furthermore, different components — and accordingly different meanings — result in different referents. A definition of power that includes only (1) will describe a much broader spectrum of situations as instances of power than a definition that contains also (2) and/or (3). Thus, different meanings of power are associated with different referents.

According to the rules advanced by Sartori, only those properties should be brought into the definition that are necessary to identify the referent and establish its borders. There must be a vast area open to empirical investigation. Hence, minimal definitions should be chosen that exclude contingent (accidental) properties.

One of Sartori's main efforts is to offer a technique for reducing the vagueness plaguing many concepts in the social sciences. A rule is laid down attempting to improve this situation. 'The boundlessness of a concept is remedied by increasing the number of its properties; and its discriminating adequacy is improved as additional properties are entered' (p. 43). By counting the number of properties in the definition of a concept, Sartori also tries to differentiate between empirical and theoretical research. The former is characterized by a low level of abstraction while the distinctive attribute of the latter is a high level of abstraction. He explains level a abstraction by using the idea of a 'ladder of abstraction'. The degree of abstraction is increased when we climb this ladder and decreased as we descend it. The rule of thumb seems to be, according

to Sartori, that 'we climb a ladder of abstraction by reducing (in number) the characteristics of a concept. Conversely, we descend a ladder of abstraction by augmenting (in number) the characteristics of a concept' (p. 44). The denotative power of a concept is increased by increasing its properties 'because this is how we descend a ladder of abstraction in order to meet research (and verification) needs' (p. 45). Theorists work, as Sartori sees it, with universal concepts — at the most universal level a definition contains only *one* characteristic — while empirical researchers employ concepts with several conceptual properties.

I find Sartori's view of the relations between abstraction, universal concepts and denotative power highly unsatisfactory. In the first place, Sartori confounds universal concepts in the sense of *general* (or all embracing) concepts and abstract concepts. 'Man' is a more universal — general — concept than 'Scandinavian political scientist'. 'Scandinavian political scientist' denotes a set that is a proper subset of the set denoted by 'man'. In terms of abstraction, however, it is rather the former set that is more abstract than the latter. Further, Sartori's rule of thumb is rather dubious. Examples can easily be produced where a reduction of the number of components means a *lesser* degree of abstraction. In the power example given above, the elimination of (3) from a definition in terms of (1)-(3) results in an definition with an increased number of referents but which is — in an intuitive sense — *less* abstract.¹

Degree of abstraction is, of course, not an entirely clear notion. However, a reasonably clear meaning could be given if it is defined in terms of theoretical depth, as this concept is explained by Bunge (1967, vol. 1, ch. 8.5). The two following examples appear to represent series of increasing abstraction: car, supply, marginal cost. And: coloured lines, wave-lengths, electronic transitions. More abstract concepts may be used to explain less abstract concepts. (This is also an idea that crosses Sartori's mind even if — owing to his blurring of the distinction between abstraction and generality — he cannot explain why this is possible). The supply behavior of a car producer is explicable in terms of marginal costs. And a specific distribution of coloured lines (spectral lines) may be explained by electronic transitions between different energy levels. But more general (universal) concepts cannot possibly explain less general ones. The concept of man entirely lacks explanatory value as far as the concept of Scandinavian political scientist is concerned.

The ultimate aim of Sartori's guidelines is the formation of well-defined concepts. Such concepts must be selected on both explicated and warranted grounds. A crucial step in this process is *reconstruction*, which is in Sartori's words, 'a highly needed therapy for the current state of chaos of most social sciences' (p. 50). This cure is performed by selecting a representative sample of definitions of the concept in question (one notes that what is considered to be 'representative' by the authors has a slightly American bias). The different

conceptual components in the definitions collected are determined and organized into matrices. These reconstructions form the bulk of the chapters following the introduction of Sartori's rules. Take 'development' as an example. Here the reconstruction essentially means a study of how different social scientists have defined this concept. The author (Riggs) concludes his survey by observing that 'increasing capacity to make decisions' is the most frequent conceptual component of development followed by 'increasing per capita production and consumption of goods and services' and 'increasing specialization (specificity) of roles, and growing complexity of system' (p. 161).

Concept construction follows concept reconstruction. The construction stage means being 'in a position to decide, on warranted grounds, the designator of the concept — that is, the *allocation of the term*' (p. 51). When this step is taken the 'semantic field' must be a guideline. 'A semantic field consists of a set of associated, neighboring terms that *hang together* under the following test: When one term is redefined, the other terms or some other term also need to be redefined' (p. 52). According to Sartori, a number of concepts surrounding power — influence, authority, sanction, violence, etc. — constitute one example of a semantic field. If by definitional fiat one now considers, say, power and influence to be equivalent, this operation will have repercussions in the entire field. Redefinitions of other terms may be necessary. At the end, it may be discovered that such a conceptual assimilation has a 'field cost'; it obfuscates semantic relations in other parts of the field.

Sartori's conception of a semantic field is interesting but problematic. The very idea seems to rest on the premise that such a field exists in some more or less *objective* sense. Without a reasonable degree of semantic consensus in a language, this condition does not appear to be fulfilled. However, the semantic excursions performed by Sartori's colleagues disclose a rather striking lack of such consensus. This fact makes the notion of unsettling a semantic field precarious. If, for example, a power analyst equates power and influence, has any semantic field been unsettled? I do not know. On the one hand, it can be argued that a new semantic field (or part of it) has been established. On the other hand, it may be said that the semantic field constituted by *ordinary language* has been changed. However, an objection might be raised to the latter argument, namely that there is no reason why a social scientist should pay attention to such a loose entity when *scientific* concepts are to be defined (the words 'science' and 'scientific' occur frequently in the Sartori volume).

Sartori subscribes to a hard-boiled and — today — dated form of empiricism. He rejects Hempel's view that theoretical terms are not reducible to observational terms (Hempel 1965, ch. 8). Unlike Hempel, Sartori assumes that 'all concepts can be turned, at least in principle, into empirical (observational) concepts' (p. 66, n. 15). One expects to find strong arguments in favor of an

assumption that conflicts with the received view among modern empiricists. However, no argument is offered by Sartori to support his view. It is disappointing to find that the author, who puts such an emphasis on the vocabulary of science, ignores the stimulating debate of the relation between theoretical and observational concepts within the empiricist school of thought. In this way Sartori misses the point of the debate. It is important not to forget that empiricist philosophers *started* with Sartori's view as a highly cherished presupposition more than half a century ago.² And it is of crucial importance to know that this bold research program *failed*. That is the reason why we have a progression of ideas such as 'reduction sentences', the 'double-language model', 'correspondence rules', etc. in the empiricist camp.³ Empiricists have been compelled to realize that the connection between theoretical and observational terms is highly indirect and complex.⁴

Sartori hopes that his approach will lead to progress in the social sciences. I fear that this hope is a vain one. As I see it, an approach of this kind would lead to clarity — which is a good thing per se — but it would not be conclusive for *scientific* progress. This is because very little is said (and reflected?) — despite the proud title of the book — about *scientific* concept formation. The crucial assumption of the Sartori approach is that concept formation in science can be carried out without *theory construction*. This assumption is simply false. In the exact sciences it is obvious how intimately connected these two activities are. Concept formation relies heavily on theory (a concept such as isotope would be inconceivable without advanced atomic theory).

Sartori appears to have been misled by his unclear conception of theory. He entertains the view that theorists, unlike empirical field workers, are not concerned with the referents of concepts.⁵ And this view depends heavily on the Sartorian assumption that theoretical terms do not refer to anything in the real world.⁶

There is no reason to deny that theoretical concepts have real referents. Concepts like electronic transition, isotope, unconscious defence mechanisms, power distribution, etc. do refer, not to observable phenomena but to an unobservable reality. To determine instances (referents) of concepts like these demands — not, as Sartori claims, the addition of further properties to their definitions — but the employment of auxiliary theories, including theory-based instruments. The validity of theories containing concepts which refer to unobservable patterns is determined by their *observable consequences*. Theories of atomic structures are judged by observable phenomena such as distributions of coloured lines. Theories of unconscious defence mechanisms are tested in light of people's verbal reactions or their observable behavior. And so on.

This view relies on an important distinction neglected by Sartori, namely that between *reference* and *evidence*. As my examples above show, these entities are not necessarily identical. Sartori adheres to an older form of empiricism,

according to which the only way of eliminating unsound speculation is to let all (scientifically legitimate) concepts refer to what is directly observable. This fact is reflected in the assumption quoted above that all concepts can be translated (at least in principle) into observational concepts. However, the distinction between reference and evidence can be upheld without risking obliteration of the difference between science and non-science (metaphysics). Popper's falsificationist methodology exemplifies one reasonable approach, in which science is defined in terms of falsifiability (Popper 1959).

The tone of this review has been rather critical. The reason is simply that I do not find Sartori's fundamental rules very helpful in improving the scientific status of concept formation in the social sciences. This does not mean, however, that the book is not worth reading. In fact, the contributions of Sartori's colleagues are generally very instructive. As far as my own field — power — is concerned, I must say that it has been a pleasure to read Lane and Stenlund's excellent overview of an unusually complex and confusing conceptual area. But, on the whole, the analyses of the different key concepts in the social sciences seem to be relatively independent of the Sartorian methodology.

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NOTES

1. The argument that an example like this is irrelevant since it talks about 'real interests', which Sartori's methodology could not license, does not hold water. If we strive to collect a representative number of definitions — which Sartori explicitly wants us to do — a definition such as our example cannot possibly be excluded. For a definition of power along these lines see Lukes (1974, p. 34 and passim).
2. A bold and far-reaching attempt along these lines was advanced by Bertrand Russell 1914 in the article 'The Relation of Sense-data to Physics', reprinted in Russell (1957).
3. The literature here is vast. The following selection of works describes the modern empiricist views on theoretical-observational concepts and the rationale behind their transformation: Brown (1977, ch. 3), Hempel (1965, ch. 8), Nagel (1961, ch. 5) and Papineau (1978, ch. 2).
4. Bunge demonstrates this fact convincingly in his thorough study of the relation between theory and observation in the exact sciences. His *Scientific Research* (1967) is strongly recommended.
5. 'Undenotativeness ... cannot be condemned as such. It points, true enough, to some kind of empirical weakness of a concept. But this may simply mean that an author is a theorist, that he is not concerned with extension, denotation ... of concepts' (p. 51).
6. The main argument for attributing this view to Sartori is his division of the properties of concepts into two clusters: nonobservable (or least observable) characteristics and properties that are amenable to observation. Only the latter properties are labeled 'extensional' or 'denotational' by Sartori (pp. 25 f).

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