Research Topics

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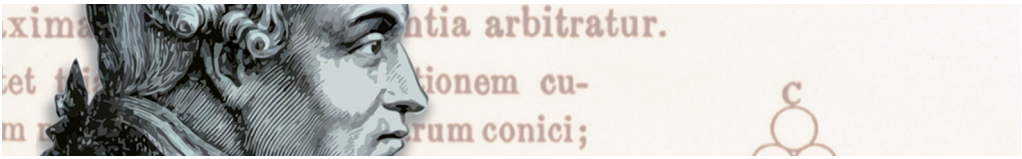

The Concepts of Immanuel Kant's Natural Philosophy

A database rendering their explicit and implicit networks

By Wolfgang Lefèvre

The crucial significance of Kant's natural philosophy is well known to philosophers. Historians of science regard his theory of the solar system as well as that of the organism as landmarks of early-modern science. His natural philosophy is, furthermore, an extremely illuminating mirror image of the sciences of his age when considered as a whole, that is, when whe explicit and implicit networks among its concepts are realized.

The realization of these networks is a challenge with respect to both the historical work required and the form in which they are most adequately rendered. Employing the advantages of the electronic medium in an innovative manner, the database Kants naturtheoretische Begriffe, constructed by Wolfgang Lefèvre and Falk Wunderlich, is not an index but rather a means of representation and at the same time a research tool. It allows the multifarious interrelations among Kant's concepts to be traced against the background of the sciences of his age.

1. Explicit and implicit networks among concepts: We commonly distinguish between explicit and implicit interrelations among the concepts used by a philosopher or scientist. Explicit interrelations are those which are expressis verbis used by an author – interrelations the author fixes by definitions or uses in proofs or less formal ways of reasoning. Interpreters es-

tablish such explicit interrelations by reconstructing the author's trains of thought.

Implicit interrelations among the concepts of an author originally come from the networks of concepts given in the culture to which the author belongs. As is well known, individuals do not acquire such concepts as isolated bits. Though each individual acquires them in a peculiar way, he or she can only become familiar with these concepts along with the collectively established networks in which they are given. Moreover, these simultaneously found and assumed networks are to a considerable degree, if not even predominantly, employed tacitly – partly because the individual mind takes those interrelations to be obvious, partly because it is unconscious of them. Philosophers and scientists are no exceptions in this respect. These implicit networks cannot be properly established by applying the immanent procedures of interpreting documents alone. Rather, one has to systematically connect such analyses with an investigation of the use and meaning of the concepts in the cultural context.

The intricate network of interconnected concepts in a given culture does not constitute a consistent whole. It is even possible that certain parts are incompatible with others. One cannot presuppose that a completely consistent thought-world would emerge out of the implicit interconnections among the concepts of an author. This holds even for Kant in spite of his famous "Ich denke, muß alle meine Vorstellungen begleiten können." But, even though they are not completely consistent, the explicit and the implicit networks among the concepts of a scientist or a philosopher still constitute an unity. The explicit nets are embedded in the implicit ones, and the latter change with every development of the former. Thus, the explicit and implicit networks form a totality that undergoes change and development.

These networks also form, furthermore, a unity for the interpreter. When trying to study the scientific work of Kant, one will not achieve an adequate understanding of the explicit interrelations among his concepts without having – not completely, that is impossible, but extensively – reconstructed the implicit ones. And vice versa.

2. Rendering such conceptual networks: From what was said so far it follows that some specific requirements have to be met when rendering the totality of the explicit and implicit interrelations among the concepts of Kant's natural philosophy. To name at least three of these requirements:

a) Since the implicit interrelations among these concepts, notwithstanding the peculiar way in which Kant assumed them, are given in and received from his cultural setting, they cannot be rendered merely immanently. Rather, the interrelations as they appear in Kant have to be compared with the interrelations among these concepts within the contemporary sciences. Only against this background can these networks be rendered adequately.

b) The totality of explicit and implicit networks among Kant's scientific concepts must not be represented as though it were an enveloping theory on which, unwritten, but nevertheless formed in principle, the published writings on

different subjects rest. Rather, the task is just to represent these networks without making them appear more consistent than they actually were.

c) The representation is confronted with a particular challenge by the fact that the totality of these networks cannot be reconstructed conclusively. It was therefore the task to find a form for rendering the totality of the explicit and implicit interrelations among Kant's scientific concepts that contains more interrelations than actually realized by the authors of the database, that is to say, to find a form for rendering these interrelations which also constitutes an instrument suitable for further investigation.
To satisfy these requirements, the authors decided to render the networks among Kant's scientific concepts in an electronic database rather than a book. Paradoxically, the atomistic segregation which the concepts undergo in a database creates the basis needed for a sufficiently complex and, above all, flexible rendering of their interrelations. Moreover, the facilities for searching and sorting an electronic database provide incomparable possibilities of access to these interrelations.

3. How the database "Begriffe" renders conceptual networks: To enable retrieval of composite as well as simple concepts, every record contains three fields or categories where a Kantian term may have been placed (the categories Begriff, Spezifikation 1, and Spezifikation 2). To give an example, the concept "Exzentrizität der Jupiterbahn" appears as follows:
BEGRIFF: „Jupiter"
SPEZIFIKATION 1: „Bahn"
SPEZIFIKATION 2: „Excentricität"

As a result, lists of related concepts are already generated from the given alphabetic sorting of records with the same term in the field Begriff. See, for instance, in the database the lists of composite concepts pertaining to the main term "Materie."

As a matter of principle, each of Kant's terms may, however, be registered in each of the three fields, i.e., as a concept with or without further specifications and/or as specification of a composite concept. The list of all records in which a certain term occurs in one of the three fields exhibits a further series of mutual relations and thus additional networks among concepts. See, for instance, the lists of concepts with the element "Welle."

Through these lists, the database gives an implicit rendering of relations among concepts. It is also possible, however, to establish explicit relations by means of fields with references to synonymous, antonymous, and/or related concepts.

The records of the database offer additionally information about the context of the concepts – first about their context within Kant's writings. For locating a concept in Kant's body of thought, the database provides two facilities: (1.) a category Zitate is reserved for a characteristic quotation from Kant. Such a quotation may cover a sentence or sometimes entire paragraphs. It may illuminate the meaning, be a characteristic application, or, in some rare cases, consist of a more or less formal definition of the concept in question. (2.) there is a category Schriften on each record that contains information indicating in which of Kant's respective

writings the concept occurs. Often the use of a concept is limited to a particular period in Kant's development.

Furthermore, the records of the database offer information about the location of concepts in contemporary science. Most of the records include a field or category for glossary entries (GLOSSAR). The explanations, commentaries, and historical sketches given in the glossary indicate the position occupied by Kant's concepts within eighteenth-century science. These entries, usually brief and in lexicon style, comprise the core piece of our interpretative work. They outline the meaning of Kantian concepts against the background of the knowledge of his time and prevailing theories and traditions, as well as beliefs and controversies surrounding these concepts. Where possible, Kant's relation to these traditions and schools of thought is indicated.

To avoid repetition or unnecessary fragmentation, often one concept was selected for such an entry, while a reference to this entry was added in the records of other concepts of concern. This, of course, gives rise to a new network.

To the database "Begriffe" – the core piece of the work presented here ¬ three additional databases are linked: the database "Personen" – containing information on persons mentioned by Kant, the database "Literatur" – documenting chiefly contemporary literary sources, and finally the database "Kant-Texte" – allowing access to and searching in the selected texts of Kant.

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