

A dictionary of cartosemiotics: report and comments¹

Hansgeorg Schlichtmann (Regina, Canada)
< schlichh@uregina.ca >

Recently an English dictionary of cartosemiotics has been published. It is selective in that it largely relies on the writings of a single author. This article discusses the dictionary project, its theoretical background, and the purposes of lexicographic work; it further offers suggestions for a future comprehensive dictionary to which the aforesaid one is designed to contribute. There follow reflections about the scope of cartosemiotics, the ends to which it is studied, and promising areas of future research.

Keywords: cartosemiotics, lexicography

1. Introduction

A few months ago a dictionary of cartosemiotics has been published. Its bibliographic data are as follows:

Schlichtmann, Hansgeorg: *Cartosemiotics: a short dictionary*. [S.l.]: International Cartographic Association, 2011. 126 pp. ISBN 978-1-907075-04-9. [Available from the author (e-mail: schlichh@uregina.ca).]

At this place, I want to provide a short introduction to the book. Further, when working on a reference publication, one is inevitably led to look beyond details and at issues of broader interest. On these I shall comment as well.

2. The Project

The book has the title “Cartosemiotics: a short dictionary”. It is an encyclopedic dictionary – or *dictionnaire raisonné* –, that is, it combines definitions of terms with comments on the matters being discussed. Its root lies in a former co-operative project, the history of which is reported in its introduction. To the best of my knowledge, the book is the first published work of its kind written in English. The word “short” in its title shall remind of its selective and provisional nature. To a large extent – although not exclusively – it documents the vocabulary found in my publications. Within these limits, an effort was made to cover all terms of primary importance. Initially I had hoped for a more comprehensive coverage, but time and resources did not suffice. Thus I decided to make a start by creating a basic if incomplete reference publication which can later be revised and expanded. I am aware of only a few previous works, none of them in English.² These are selective, too, each of them documenting the terminology of a single author or school of thought.

¹ This is a revised and slightly expanded version of a paper which was read on July 1, 2011 at the Paris seminar of the ICA Commission on Theoretical Cartography.

² The “lexique” in Bertin 1998 (pp. 429-431, French), Wolodtschenko 2005 and 2009 (Russian), and Wolodtschenko et al. 2009 (Ukrainian).

That I focused on my own writings has two consequences. First, only one conceptual approach to cartosemiotics is developed. To consider other approaches is a task for the future. For the time being, I had to be content to mention, in the introduction, major systematic treatises written by other authors (Bertin, Liouty, Pravda, etc.). Second, although cartosemiotics studies all kinds of cartographic models – also called cartographic representation forms – and both analog and digital ones,³ the work under discussion usually relates only to maps in the traditional sense and, further, only to analog ones. These constitute the most versatile and most widely used kind of cartographic models, and they offer so many and varied semiotic problems that their study has required much time and effort and still does so. A future, more comprehensive dictionary will, of course, have to consider what has hitherto been left aside. One may regret that certain points have not been covered, but it is more productive to focus on what has actually been done. After all, the book contains a good number of new findings.

The dictionary articles are arranged alphabetically and linked by cross-references. In addition, their keywords appear in a systematic overview. The skeleton of this overview – introduced in Schlichtmann (2009) and slightly expanded – has seven first-order headings and, under the third main point, several headings at two lower levels. The overview with its headings provides an idea of the underlying conception of cartosemiotics. With its aid, the book could also be read as a condensed handbook of the field – according to a specific perspective, of course.

3. Background issues

As already noted in passing, there are different approaches and conceptual frameworks, both in general semiotics and the semiotics of cartographic representation forms. So the work under discussion, like many others, has been written under one of several theoretical orientations. An author should make his theoretical position clear, and a reader should know an author's position before entering into a discussion; otherwise there is a risk of confusion.

Now, the conception underlying many articles in my dictionary stands in the semiotic tradition of continental Europe, within which there are various schools of thought. Although this tradition starts with Ferdinand de Saussure, it comprises later revisions and expansions, which have been contributed by scholars from various countries (chiefly Hjelmslev, Jakobson, Buysens, Mounin, and Prieto). Right from the start this tradition has appropriately attached importance to the organization of signs in systems (Nöth 1995, p. 63), in this respect greatly differing from the approaches of American semioticians. Contrary to an occasionally encountered belief, by the way, modern European-based semiotics does not limit itself to linguistic signs but studies all kinds of sign phenomena. Also, it does not generally disregard referents, i.e., the things etc. in the world about which we speak by means of signs.

In this context some points which are elementary but apparently sometimes forgotten. In the European tradition, a sign is a bifacial entity, combining a conceptual item – a content or meaning – and a perceptual item – an expression. In semiotics, the term “sign” has other senses as well; these are recognized but kept apart. Here we have one of many cases of lexical ambiguity, a phenomenon of which one must be aware. Also, a sign, as understood today,

³ In other words, cartosemiotics, as understood here, deals not only with maps – on paper or screen – but also with those models which Wolodtschenko (2011, pp. 5f., 16f.) assigns to his field of “meta-cartosemiotics”. It also includes the study of atlases and other ensembles of cartographic models, and of such models and other documents, although ensembles occupy but a marginal position within the discipline (Schlichtmann 2010).

may be elementary – like a green patch with the meaning ‘forest’ –, but it may also be more or less complex – like a bundle of contours having specific shapes, along with the collective meaning ‘landslide’. Finally, we must study both contents and expressions, together with their systemic organization. As regards contents, we may remember that meaning is a fundamental concept of semiotics, on a par with that of sign.

To return to the start of the present section: there are, then, different theoretical positions. We must live with this situation. Often one can “translate” between different conceptual frameworks. It is, of course, not so that “anything goes”: untenable positions – such as inconsistent or factually inadequate ones – get weeded out anyway in normal scholarly criticism. But it remains true that there are various ways of organizing knowledge. The most prudent stance, in my view, is this: first, let a hundred flowers bloom, provided they can stand up on their stems – that is: use any approach that promises results –, and, second, be wary if somebody proclaims an orthodoxy. One might also remember that, at the level of empirical research, different scholars often face the same problems and may well arrive at comparable solutions, although their theoretical orientations do not coincide.

4. Dictionaries, present and future

What is a dictionary of cartosemiotics intended to do for its users? I expect it to serve at least two purposes.

First, it shall, of course, function as an aid to understanding the relevant literature. Assuming it is indeed used, it can help to cope with the following circumstances: (1) variations in terminology resulting from different theoretical orientations, (2) lexical ambiguity – think of the different senses of the word “sign” –, and (3) the idiosyncratic technical language of some authors. These circumstances are apt to confuse unwary readers. Incidentally, I found them to be surprisingly common.

Second, a dictionary shall enable us to find out, for a given phenomenon, (1) whether or not an appropriate label is available, (2) where duplicate forms can be eliminated, and (3) where an inadequate word or phrase should be replaced by a better one. In other words, it shall help in developing the technical language of the field. It is well to remember that much work will still be required before a coherent and relatively stable terminology emerges.

As noted earlier, there exist several reference works of cartosemiotics, including mine, each representing a specific conceptual approach. A truly comprehensive dictionary, however, remains a task for the future. It would have to incorporate all relevant schools and research orientations. Realistically, it would have to be a co-operative effort. First, the dictionary articles should be contributed by the individual researchers themselves or at least by persons who can read the relevant publications (in Slovak, Russian, etc.). Second, an editor should provide the required cross-links to compare the terminologies of different authors and to counterbalance the potentially confusing circumstances mentioned above. To be sure, this must be done in liaison with the authors, but the important point is that ultimately everything passes through a single brain. Since much time and effort are involved, the editor will need to have a good life expectancy. Background material – semi-finished products, so to speak – is available already as a set of summarizing and exegetic studies which I edited and published more than a decade ago (Schlichtmann (ed.) 1999).

5. Context: questions about cartosemiotics

As noted initially, lexicographic work leads one to reflect on the enterprise in question and to think about issues of wider concern, as they might be raised by an interested layman. At least three major questions come to mind: (1) what is cartosemiotics, (2) what are the ends of studying it, and (3) what are promising problems for future research?

1. First, what is cartosemiotics? I define it as the semiotics, or the sign-theoretic study, of maps and other cartographic models (for simplicity, I am usually speaking of maps). Its field of interest may be circumscribed in analogy to that of linguistics – another semiotic discipline. It encompasses (1) the sign systems employed in cartographic models, (2) processes of creating and using such sign systems, (3) contexts in which signs originate and function, and, finally, (4) several associated phenomena. The types of the said sign systems constitute the core area of cartosemiotics. Speaking of semiotics in general, its fundamental problem fields are (1) the conceptual organization of experienced or imagined worlds and (2) the conveyance of concepts by means of signs. As for the first field, it has not often been tilled by cartosemioticians. Could it be that at least some of them do not consider concepts and their order to be objects of semiotic study?

2. Second, what are the ends of studying cartosemiotics? At least two answers come to mind. On the one hand, we want to comprehend the regularities according to which cartographic models are designed so that they can be used as intended and without avoidable error and excessive effort. On the other hand, we strive to understand the conceptualization of the world in the making and use of cartographic representations.

At a deeper level, there is a further, more general answer, and it applies to any field of inquiry: we invest effort because we are looking for knowledge which is revealing, given a specific epistemological interest. Such an interest is an *a-priori* condition of scholarship. Some people will share a given interest – in the present case, that in semiotic issues –, but others will not, and we have to live with this fact. In this context it must be noted that, in general, the reception of semiotic ideas by cartographers has actually been quite limited and selective.

3. Third, what are promising problems for future research? In answering this question it is convenient to keep apart systematic, applied, and comparative aspects – or branches or subfields – of cartosemiotics.

3.1. The systematic subfield has been allocated most research so far, but it is by no means exhausted. The core area of cartosemiotic interest are map language – I call it map symbolism – and the equivalent “languages” underlying other cartographic models. We study them with a view to imposing order onto a wide range of observations and to construct a theoretical model of this or that sign-system type. While map symbolism is relatively well understood, we have still much to learn about the other “languages”. In addition, the influence of the medium – e.g., screen vs. paper – and that of the mode of perception – e.g., tactual vs. visual – on the inventory of expressions deserve more study.

As for gaps in our knowledge which previous research has left open, colleagues who are concerned about them and have the requisite expertise – in computer applications, for example – are welcome to fill them. They would need to turn to questions which have been answered already for maps on paper and answer them for other representation forms as well. Here are some pertinent questions: what signs can be recognized, how are they defined, what signifying traits – constant ones and values of variables – are used, and how are expressions influenced by the medium of representation? In any case, appropriately detailed research is required.

3.2. An orientation towards application has been strong right from the start, as shown by Bertin's work, and it is this aspect which has usually been of interest to cartographers. There is a good number of open questions left. For example, we still have no complete system of the problems of cartographic transcription, their solutions, and attendant constraints.⁴

3.3. It is in the branch of comparative cartosemiotics where I see the greatest potential for future study. Such research seeks to discover – and perhaps explain – systematic differences between cartographic representations or classes of such. Thus it broadens the empirical basis of research about conceptualization and symbolization. I only mention one area of inquiry: large-scale topographic maps of different countries. For example, we might try to understand preferences (1) for pictorial or abstract marks or (2) for detailed or summary characterization of land uses – regarding the latter point compare maps of the Netherlands and of Canada. Usually there were choices open to the map makers: what were their motives for choosing as they did, can we discover them?

Under the present head, my chief interest is in the multi-faceted organization of the contents conveyed in maps. Several major articles in the dictionary testify to this interest. We study the conceptualization of the world on the part of map authors and the construction of systems of contents. The latter often show choices between alternative solutions – e.g., in the delimitation of numerical class intervals, to mention a rather simple case. Here we are reminded of the cognitive, knowledge-organizing function of cartographic representation – that is, its function of constructing conceptual models of segments of real or fictitious worlds. We may also understand that, to some extent, the mapped information is not simply given but, within limits, actively shaped or constructed.

6. Concluding note

I have reported about a dictionary of cartosemiotics and outlined some general thoughts which arose during its preparation. These thoughts pertained to (1) issues of the theoretical background, (2) the purposes of lexicographic work, and (3) its potential continuation, further to (4) the scope of cartosemiotics, (5) the ends to which it is studied, and (6) promising areas of future inquiry.

As for the book itself, I hope that it proves useful and is indeed used; if so, expansions and improvements will suggest themselves. I also hope that, in the near future, interested cartosemioticians will find it worth their while to create a more broad-based and comprehensive reference work.

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⁴ For a partial study – with the emphasis on visualization – see Schlichtmann (2003).

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