Mapping is a historical social activity. Despite its ancient practice cartography is a relatively young discipline. Modern cartography was born in the European Renaissance when the new visual culture and new graphic practice of representation the world developed. The principles of the scientific map making and the basics of surveying formed important parts of the new visual transformation technology of reality. Invention and advancement in the field of printing brought revolution and maps, as parts of the everyday environment of the human life. Maps were products of art, science and technology, but the way how they were produced created the illusion, that they mirror accurately the landscape or reality. This false conviction remained behind the developing practice of mapmaking even when scientific theories were created later. Mapping is a social activity. Although it was well known for cartographers, who worked in and for society the theoretical conclusions of this fact have not been drawn yet in cartography. For a long time the technological process of traditional printed map making formed the model for building theory on cartography. With the increasing amount of information and the growing complexity of institutional and professional sphere cartographers would prefer a scientific theory that underlay their practice and that served as self-justification or a professional ideology. Cartography was considered as a science which represents scientifically, accurately and objectively the objective world. Based on linguistic analogy, theory of cartographic communication was developed, and realizing the role of map user cognitive issues appeared in theoretical approaches.

While cartographers kept building their tradition-based theories of their non-traditionally becoming practice at the dawn of the digital era, Brian Harley tried to deconstruct the scientific mythology around mapping. Based heavily upon the new postmodern philosophical rebellion against academic philosophies, he adopted the deconstructional strategy, rooted in literary analysis, to give conceptual basis for the history of cartography. By changing the metaphor, Harley interpreted maps as texts and this shift made it possible for him to speak about cartographic discourse in terms of the old art of rhetoric. He showed the masking layers of the social context, behind that cartographic texts, that is maps can be really read and understood. Brian Harley's ideas received great attention internationally, and he offered a new theoretical attitude for cartographers. The social context expanded immensely the scope of cartography. On the other hand, most cartographer, hardly familiar with postmodern jargon, could find no practical results of his theory, especially when new digital technology and non-traditional electronic display function were taken into account. The more serious theoretical problem is the inherent rhetoricity of all representation in Harley's theory, that is practically the question of true representation at all. From personal communication I know that Brian sought for solution in the direction suggested here. Although much broader then its predecessors, the map as text analogy is not new and essentially it is a variation of the map as mirror analogy. Analogies can have but limited relevance and the essential attribute of maps is that they are not linguistic, but visual or other holistic entities. This is why deconstruction is certainly able to offer us an alternative epistemology, revolutionary however, but it is still epistemology only. Traditional maps and new cartographic products are not only different social ideas but material objects as well. In other words, first of all they exist somehow. This fundamental fact is ontological, so the theoretical frame suggested here for cartography in the future is a philosophical ontology, that gives a solution for the problems of epistemology. We should talk about cognition and knowledge of course, but the world, the social being is not restricted to these aspect of the life of people. Cartography is more than maps. Mapmakers and users are human and members of societies. This ontological fact again puts cartography into a much broader context than its immediate professional environment. The social context of cartography, its institutions, professional organization, the commercial side and the political-ideological effects on map making and other activities - these are a prospective field for present and future investigations. It is increasingly important to acquire some knowledge of the working mechanism of these aspects of our discipline in the digital era. The history of cartography provides many examples.

Cartography is an historical activity. The development is not a simple progress, the choice between alternatives, that is alternative cartographies is always historically and culturally determinate. This is the reason why an essentially historical theory is needed in modern cartography and when studying the history of cartography as well. The historical attitude is of vital importance now when technology develops rapidly. Cartographers should be aware of the basically historical nature of their discipline and this flexibility and dynamic view on maps can help them in responding the technological challenge. The changing world around us changes its spatial attributes. But space itself is not an empty container how traditional cartography postulates, and the once so important geometrical accuracy now gives way to structures and relations in social space that is neither eternal nor external to human life in history. Maps, both digital and traditional fulfill social requirements. The cultural diversity is reflected in the differences in map-making. Although the global dimension of cartography, the digital standards are now more important than ever, we should take care of those minor differences.

The power of cartography is in her visual nature. When we use the iconic rhetoric, we manipulate and serve some ideology. Ideologies are unavoid-

able, but knowing more about the social context we can have more effective control. Ethical questions should be dealt with, like the problem of the access to digital data, the information democracy and the problem of copyright of the digital products. We are responsible for our maps and can meet legal problems as well. The crucial issue of cartographic training and education is an important interface between the discipline and the social environment. Without a general theory we can not communicate with the public, and we can understand each other. Communication between cartographers is a pressing problem, because the future of the discipline may depend on the successful change of ideas and the establishment of a conceptual consensus. Terms are very important and they should reflect the state and consensus of the discipline. The notion of map was central in the traditional era and now we should seek for another concepts for the digital technology. We can expand the map-idea to every potential representation, but it is arguable to transform our vocabulary into a broader and more dynamic form. It was and is generally accepted in and outside cartography that cartography is modelling and maps are models. Modelling is a process, an active transformation of the reality into an other form that we can comprehend. Cartographic models and other model types are in close relation, especially when using digital technology, so we should consider this alternative. Cartography is a part of the cultural context, and digital technology makes possible temporary, dynamic cartographic representations that become parts of our everyday life, that organize, transform and influence our world views. Maps as social images are very effective and the deeper understanding of the interrelations and co-existence of the different social contexts is the way how we develop cartography. Let us consider cartography as a social-historical activity and this ontological approach to our changing discipline in its changing social context can result in a creative, that is ontological rather than simply representational, that is epistemological cartographic practice. Creation is a divine act, so modern cartographers should not fear of giving up the myth of the objective and value-free cartography. Instead of this ideology we must accept, understand, and popularize the idea, that cartography was, is and hopefully will be modelling the social-natural reality and exercising her power to protect and enrich human values.

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THE SELECTED MAIN THEORETICAL ISSUES FACING CARTOGRAPHY

REPORT OF THE ICA-WORKING GROUP TO DEFINE THE MAIN THEORETICAL ISSUES ON CARTOGRAPHY FOR THE 16TH ICA CONFERENCE-COLOGNE 1993

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