

Abstract: 'A History of Knowledge Formations.'

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The article will address the emergence of disciplines as the principal structures of the ordering of knowledge production and dissemination. The emergence of disciplines at the beginning of the 19<sup>th</sup> centuries is an important turning point in the development of scientific knowledge. Until then the development of knowledge followed interests and occasions that arose with pressing practical concerns, political, economic, and social. Knowledge was pursued under the broad umbrella of natural philosophy and natural history. Thus, the criteria of relevance of knowledge resided largely outside of the scientific enterprise. The end point of this development is reached when the existing order of knowledge in the form of the accumulation of observations of nature and their classification reaches its limits and is replaced by temporalization as an organizing principle. With the emergence of disciplines the criteria of relevance begin to be generated by the scientific community itself. The emergence of disciplines coincides with the formation of such communities, it therefore marks the differentiation of science as an autonomous social system. Once this process is under way it evolves by way of internal differentiation and specialization.

The emergence of disciplines is also expressed in the evolution of organizations. Natural philosophy is pursued in the academies. The disciplines develop in the 'new' university which is increasingly organized in 'faculties' which become more and more differentiated as time goes on. The faculties and their derivatives, departments and professorial chairs, are, in due course followed by the foundation of professional organizations which manage their practical representation vis à vis the state and the broader public, i.e. in regulating the contents of teaching and certification of standards of achievement in training.

The role of disciplines as the self-generating organizational units has, thus, determined the structure of universities with respect to research and teaching as well as of the professions that depend on scientific knowledge as their base and continues to do so till the end of the 20<sup>th</sup> century.

Only towards the end of the past century a new organizational order of knowledge production appears to emerge, side by side with the disciplinary order. Specialization of the disciplines into more and more research fields increases the chance of cross fertilization (e.g. molecular biology) which leads to the formation of yet new disciplines or sub-fields. At the same time

the need to address pressing problems that extend beyond existing disciplinary lines leads to interdisciplinary research areas (e.g. environmental research) which are sustained by corresponding organizations (research laboratories, first in nuclear research both military and civilian). The open question is if interdisciplinarity (or lately transdisciplinarity) will replace the traditional disciplines as an organizational principle of knowledge production as some analysts claim.