

THE BRANCHING OF SCIENCE ACCORDING TO C. S. PEIRCE

J. Nubiola

Dept of Philosophy, University of Navarra, Spain

e-mail: jnub@mail1.cti.unav.es

In a world of ever growing specialization the idea of a unity of science is commonly discarded as an impossible ideal. Yet, at the same time, cooperative work involving transdisciplinary points of view is encouraged, both as a remedy against the conceptual poverty of the scientific reductionism which was inherited from the Vienna Circle, and as a way of efficiently tackling more stubborn unresolved problems. The generation of knowledge is still thought to require a strange mixture of hard team research and individual imagination, which makes it impossible to predict where successful scientific creativity will appear.

Within this framework, the aim of my paper is to show with some textual support that Charles S. Peirce (1839-1914), the founder of pragmatism, not only identified this paradoxical situation one century ago, but also mapped out some paths that we could follow in order to reach a successful solution to it. Unfortunately his study of this area of scientific methodology was pigeon-holed under the general title of "Classification of the Sciences", which has been commonly considered the domain of librarians or academic administrators. A closer study of Peirce's conception of science as a collective and co-operative activity of all those whose lives are animated by the desire to find out the truth, by "an impulse to penetrate into the reason of things" (CP 1.44; MS 615; Kent), may enable us to identify him as a true philosopher for the 21st century (Debrock).

The relationship between the generic unity of science and its several branches used to be expressed by the old metaphor of the "Tree of Knowledge". This is not only a beautiful metaphor suitable for engravings, but it may offer a way to recover the unity of science, because it suggests that science is a living entity.

Ancient texts (Porphyry, Lull, Bacon) as well as more recent ones (Diderot, Neurath and Unified Science) yield a better understanding of the notion of the branches of knowledge and of the processes of branching than do the rigid subject-divisions of a library or of a University budget. Peirce's obsessive concern with a *natural* classification of the sciences was fuelled by his purpose of elucidating the *vital* relations between the different branches. Moreover he stressed that scientific creativity originates in the germinal tissues, while its source may be traced back to the 'ethic of intellect'. New knowledge is generated wherever communication is enhanced: everything that is known, is known jointly among all.

Contrary to the contemporary relativistic trends which may be considered as a by-product of the shipwreck of reductionism of the Vienna Circle, the recent resurgence of pragmatism (Bernstein) and the defense of a non-relativistic pluralism (Putnam, Llano) very much confirm the richer framework suggested by Peirce for understanding why sciences converge towards truth. The unity of science is not furnished by a semiotic conceived as a *scientia generalis*. The articulation of the different branches of knowledge is a result of the efforts of the real community of human beings trying to share their achievements: the assembly of the sciences is achieved only when it is pursued as a common goal. Human aspirations aimed at unity must reconcile respect for the autonomy of each science with a deep trust in the basic capacity of human reason to attain truth, however partially and provisionally. The future flourishing of science depends upon the vitality of this double attitude towards the tree of knowledge.