

## Science versus Scholarship or Scholarship as Science?

This booklet contains articles written within the auspices of three research cultures: the natural sciences, the humanities and the social sciences. These cultures are similar in that they all produce knowledge that requires stringent methods, conceptual clarity and guiding theories. For all of them, knowledge production is systematised, rational, structured and targeted. In this sense, they are all part of a *joint research culture* that applies the same strict requirements and ethos to secure the validity and reliability of the knowledge production. Their ways part in that they study different subjects which can only be studied through methods and approaches reflecting the individuality and uniqueness of those subjects.

These differences are to some extent accounted for by two concepts: *science* and *scholarship*. The first usually describes the natural and formal sciences, whereas the latter refers to studies in the humanities and, to a certain extent, also in the social sciences.

The purpose of this introductory article is to provide a brief historical account of the explanatory utility of the two concepts in the light of changing philosophies and practices in research.

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### **The classical concepts of science and scholarship**

The concept of science is derived from the Latin word, *scientia*, which means knowledge, and *scientificus*, which means making or producing knowledge. In this definition, the concept of science is applicable to all manner of systematic studies, including the humanities. Here, the focus is on the act of knowledge production, not on cultural specificities.

The classical notion of scholarship is exclusive, comprising only the study of ancient Greece and Rome. In continental Europe, this field became known as ‘classical philology’, denoting the study of languages and literature in an expanded and more general way. In both versions, the notion is culture-specific while still fitting the Latin definition of science. However, the broadness of the early notion of science eventually faded.

### **The origins of modern science**

Inspired by Galileo, Newton laid down the principles of the modern scientific method of investigation by comparing theories and models with experiments and observations of the real world. The defining criteria of science during the Newtonian era were narrowed down to three: the ability to *predict*, to unmask *cause-effect relationships* and to discover *universal laws*. The reference was to the earth sciences, which by definition were considered ‘real sciences.’ Their focus was on the ‘natural Universe’,

i.e. on measurable, observable variables, leaving the interpretive 'social Universe' to the scholars. As has been observed "Social scientists became obsessed with the question 'Is it a science?' where 'science' referred to Newtonian physics and classical mechanics ( E.D. Klemke *et al.*, 1998: 106)." In light of this redefinition of science, a fair amount of social scientists were convinced that there was no alternative but to copy the natural sciences and gauge social realities by way of mathematical methods and statistical analysis to qualify as real sciences. Those who qualified were allocated a function in the positivist *Unity of Science thesis*, which reduced all sciences to one mother discipline: Physics. In a long chain of hierarchical subordination and superordination, the qualified social sciences were reduced to psychology, psychology to biology, biology to chemistry and chemistry to physics. In other words: all research is based on objective observation and emotionless gauging connected to physics in a subordinate position. This entailed that the quantifiable social sciences were considered scientific, whereas the interpretive fields of the social sciences and humanities fell outside the definition of what was real science. "Science does not think", Heidegger once touted.

The condescending attitude of the Unity of science thesis contributed to unleash the Science War in which humanists took an active part changing the philosophical underpinning of what science is and is not.

### **The impact of post-positivism**

Stefani Collini summarises the intrinsic values of post-positivism nicely: "The activities conventionally referred to as 'science' do not ... , all proceed by experimental methods, do not all cast their findings in quantifiable form, do not all pursue falsification, do not all work on 'nature' rather than human beings; nor are they alone in seeking to produce general laws, replicable results, and cumulative knowledge ... it has become more and more widely accepted that different forms of intellectual enquiry properly furnish us with a variety of knowledge and understanding, no one of which constitute the model to which all the others should seek to conform (Collini, 1998, xlv)." <sup>1</sup> The differences between science and scholarship are getting smaller. The physicist and Nobel Laureate Steven Weinberg complies: "Physicists get so much help from subjective and often vague aesthetic judgements that it might be expected that we would be helped also by philosophy, out of which after all our science evolved (Weinberg, 1992, 166)."

In this post-positivist line of reasoning, the most common criteria for what constitutes science also applies to work in the historical-philosophical fields, such as falsifiability, corroborability, verifiability and empirical testability. The procedure of formulating hypotheses and testing them empirically also operates with the interpretation of texts and, by extension, with the reconstruction of historical processes, which is always based on textual interpretations. In philology, "data take the form of the physical properties of manuscripts, linguistic rules and textual and ideological coherence ... On this background it is reassuring to conclude that scholarship nonetheless seems to possess an intrinsic self-regulatory ability, which in the long run allows truth to prevail over sensation (Thomassen, 2006/2007, 112)".

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1: Stefan Collini: "Introduction" to C.P. Snow: *The Two Cultures, ...* op.cit. pp. xlv–xlvi.

Thus, the physical and social universes share similarities in terms of uncertainties that can only be accounted for through skilled interpretations. In this post-positivist perspective, there are similarities and even compatibilities between the cultures, which are also evident from the *hybridisation of disciplines*.

### **The hybridisation of disciplines**

Adhering to English linguistics and positivist philosophy to describe science and scholarship is also being complicated by the constantly growing number of *hybrid disciplines*, i.e. conglomerates of multiple disciplines sharing a common focus and/or object of interest or study. These hybrids build across disciplinary delineations by spinning off from their parent disciplines and finding new expressions in fresh disciplinary constellations resulting from the process of hybridisation.

Hybridisation implies an overlapping of and contact between segments of two or more disciplines, a recombination of knowledge and competence in new specialised fields. The recombination among disciplines arises from the borrowing of concepts, theories and methods. In the history of science, a two-fold process can be observed: specialisation within disciplines, accompanied by their fragmentation, is the first process, whereas the recombination of specialities across disciplinary borders is the second. Some of these fresh cluster disciplines embrace both the hard and the soft sciences, making it a bit odd to apply different conceptions of systematic studies to different parts of a unified discipline. As a mix of cognitive psychology, artificial intelligence, linguistics, anthropology, genetics and philosophy, cognitive science is one of several examples of the hybridisation of research. Geography that aims at building bridges between the social and natural sciences is another. Economists address societal questions with the instruments of the formal and natural sciences: mathematics and statistics. There seem to be no clear-cut and absolute delineations between cultures and disciplines; to a certain extent, the fields overlap and blend. In addressing problems such as global warming, ecosystem management of live wild stocks, poverty, etc., involving a mixed bag of social and natural scientists, the investigations of the man-made causes of these problems will be labelled scholarship, whereas the research on the natural effects is called science. What, then, should we call the research undertaken in the trading zones between two or more fields, where social and natural variables intermingle and mix?

On these grounds, Wolf Lepenies is using the term 'science' in the German sense of *Wissenschaft*, to cover the entire *systematic body of enquiry* (Lepenies, 1989:64). In a similar fashion, the concepts of *academic research* and *post-academic science* are increasingly being used as a collective notion to depict systematic study in all cultures and disciplines (Ziman, 2000). In this vein, the concept of research is widening to depict systematic studies in the humanities, social sciences and natural sciences alike. This indirectly comes to expression in concepts such as *political science*, *behavioural science*, *social science*, *linguistic science*, etc. Scholarship has become identical with the notion of 'soft science', whereas the concept of 'hard science' is used to depict the quantifiable natural sciences. The differences between the cultures are one of degree rather than of kind. Some are more interpretive than others, but all lean on interpretations as a means of understanding. In general, research is a human activity that can not be under-

taken without leaving traces of its inventor and implementer. All cultures contain doses of scholarship and elements of science. The concepts are relative and their demarcation lines blurred. We are slowly but surely returning to the Latin meaning of concepts of science focusing on the process of knowledge production, including all kinds of research.

### **The name of the child: Does it matter?**

The above discussion may seem an unnecessary scholastic exercise. The name of the child is of course less important than its intrinsic character, i.e. the restricted ability of methods, theories and approaches to restrict the human impact on results in *all* fields of research. In this respect, the changing philosophies and practices of research have shown that the cultures are akin to each other without being ‘identical twins’. The differences are of degree, rather than kind. To preserve the differing nuances of kinship, the distinction between science and scholarship still makes some sense. If, however, the emphasis is on the core genetics of kinship, the old dichotomy may seem an anachronism. The intermingling of science and scholarship in all kinds of research makes the concept of *academic research* a reasonable replacement, covering the area of overlap between the two notions. Thus, the renaming exercise only makes sense in the historical context, correcting for the philosophical exaggerations and definitional inaccuracies of past history. The contributions to this booklet provide good examples and empirical insights to the usefulness of sustaining the differences between science and scholarship in research.

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