

## **Simão Mathias Centennial: Documents, Methods and Identity of the History of Science**

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(in behalf of the Scientific Committee)**

In August 2008 we commemorate the centennial of our mentor Simão Mathias. He was the first researcher to earn a PhD in chemistry at University of São Paulo (USP) in 1942, in fact, the first to complete an academic doctorate in Brazil. A proficient scholar as well as great achiever, Simão Mathias was involved and was also the mentor of mega-projects (such as the creation of the first laboratory of physical chemistry; unification of different sectors of chemistry at USP into the Institute of Chemistry), scientific societies (Brazilian Society of Chemistry; Brazilian Society for the Advancement of Science). An extensive network of national and international exchange, large research programs and the institutions to back them (The State of São Paulo Foundation for Research Support – FAPESP; National Council of Scientific and Technological Development – CNPq), among other examples.

Furthermore, as any great scholar, he also was a dreamer. For the history of science, he dreamed of a kind of “Library of Alexandria” specific to this field. As in that famous center of the past, his project included a huge library containing chosen original works – or eventual copies – covering the science of any time and place. Also, as in Alexandria, this library would not merely be a repository of precious originals, but would also feed a team of scholars which would gradually evolve into a true school.

A part of his dream was accomplished through the foundation of the research center that bears his name: Center Simão Mathias of Studies in the History of Science – CESIMA. For this reason, we are delighted to celebrate his centenary in great style. A seminar will be held between August 26<sup>th</sup> – 29<sup>th</sup>. It will deal with a subject linked to CESIMA’s own foundation and that was a focus of particular interest to Simão Mathias himself: documents, methods and the identity of the history of science.

## Documents

As currently CESIMA has more than 30,000 works, mainly in digital format, one of the main problems a tour research Center was to find a proper system of classification. Traditional division into large modern areas leads to serious distortions and anachronisms, especially in the case of ancient documents. Moreover, distortions caused by this classification model in works closer to modernity are equally significant, as the conceptions included in such works often refer to ancient trees and branches of knowledge.

In this way, full fields of knowledge antedating modernity were thrown in the limbo of *pre- proto-* and *pseudo-*sciences. Furthermore, there are many examples of past knowledge that substantially diverge from their current homonyms but were, nevertheless, classified together with them. Poorly adequate or even unsuitable, such classification formula is usually misleading in the search and selection of documents relevant to the history of science, besides hindering the reflection on the identity of this field.

For these reasons, researchers and students associated to CESIMA, including documentarists and librarians, engaged in the discussion and proposal of a new classification, which will be presented to the Universal Decimal Classification in order to make the search of documents for the history of science more coherent and specific. The proposed classification is grounded on a series of motives which will be open for discussion and debate in the August seminar. Partially described above, these motives also include the particulars of the methods to work with documents when the subject is the history of science.

## Some remarks on the spheres of analysis in history of science

As in other fields of scholarship, the perspectives of analysis (and thus of methods) in history of science are in a process of change. Elaborated for a long time mainly by scientists and epistemologists, its sphere of analysis included basically the internal dimension of science in different periods of time.

The intensive search for original or primary documents, which would serve as the basis for many of such analyses, is very well known. However, most of these attempts had little regard for the historical context of documents and used current scientific notions as the standard to evaluate supposed failures or developments of past science. As it is known, this is the origin of a significant part of anachronisms and subsequent problems of classification, as mentioned above. On the other hand, this is also the origin of the concern to focus research on primary documents while keeping their epistemological and philological implications in mind. As a

characteristic trait of the history of science, this sphere of analysis remains highly important, although it is no longer the only one and has suffered several modifications and influences.

A long and very well known history of debated and reflections on the role and methods of history of science between the 1930s and 1960s took that first sphere away from its hegemonic role. An influx of ideas on the relationship between science and society permeated the field. In this way, a new sphere of analysis referred to the historical context gradually acquired consistency. Together with it (and partially due, precisely, to the modifications it introduced), a sphere of historiographical analysis developed. The latter represents a sphere that not only addresses the variations in history of science, but also the redefinition and broadening of its subject-matters and even of the notion of science itself in different times and places.

Naturally, any historian of science holds the interconnection (of mutual dependence) of all three spheres advisable in order to do sound work. However, such interconnection never was and still is not trivial. Because they are interconnected, an excess (or lack) in any one of them “contaminates” the other two. On the other hand, their different natures make mandatory operations more proper to a Renaissance polymath paradoxically living in a time of ultra specialization of knowledge and excessive informational noise. In any case, whenever such complex interconnection is not taken into account, the identity of history of science is frequently lost.

These, as well as related issues have been the subject of discussion for some time to CESIMA teams. Inserted in workshops, courses, publications, or as a part of projects funded by FAPESP and CNPq, they will constitute one of the pillars of debate in our August meeting.

## Identity

Related to the issues above, the identity of the history of science is the most difficult of them all. Several discussions and practical actions have tried to solve it, but it remains open to debate. Here we merely want to raise some points, aiming at the future debates in August.

A first issue, acknowledged by most, concerns the multiple faces that history of science presents. We must speak, therefore, of an interface field, to which at least three of the main areas of knowledge contribute. Doubtlessly, one of them is represented by the science, to which history of science is related from its very inception through a meta-discourse. A second interface traditionally corresponds to

philosophy or, in a stricter sense, to the history of philosophy and philosophy of science. Fruitful exchanges were achieved in this interface to the profit of both sides in spite of the differences in approach and in the configuration of their subject-matters. Surprisingly, the last interface to develop was the one regarding history. Some of the reasons discussed above illustrate the new dimensions this interface brought to history of science. Nevertheless, we ought not to forget that the internal – and strongly epistemological – sphere of analysis in history of science has always demarcated it from history. On the other hand, this generic view on the possible relations between history of science and its interfaces still requires deeper attention and study.

The second issue, derived from the first one, concerns the excessive proximity that, due to institutional and necessary reasons, history of science has relatively to its main interfaces. Such proximity leads to still unanswered questions. For instance, how this proximity might be kept without falling into subservience? As it is known, history of science has already been lodged by the sciences and by philosophy and later, by social studies and history. But, when and how may we know that lodging has exceeded the boundaries of simple institutional contiguity? When lodging becomes dominance, would not we say that the equilibrium among history of science and other interfaces was broken, affecting also the know-how that characterizes history of science? Finally, would not this lead to a return to outmoded “histories of science” written by specialists in other areas of knowledge?

Also resulting from the previous, a last issue (among the many still waiting for a solution) deserves to be mentioned here. Literature points out to many problems that arise when the differences between history of science and other fields of learning are dismissed. Such differences range from aims to methods as well as other theoretical requirements, as mentioned above. In particular, there is a problem regarding nomenclature that is rarely remembered but that has contributed to maintain these differences blurry. For instance, it is unlikely that a work on the history of philosophy will be identified as historical rather than philosophical. But if this work would deal with the history of science, almost certainly it would be identified with one of the several fields of either history or science. Thus, differently from the history of philosophy, the history of science lacks a main field lending identity to it. The name it traditionally bears is nothing but one more of the blind spots requiring careful analysis, when we seek for the differences that define the identity of history of science.