



SELEÇÃO MESTRADO PPGHCTE 2022

PROVA ESCRITA

Rio de Janeiro, 27 de junho de 2022

Auditório Maria Irene, NCE/CCMN

CANDIDAT@ (NOME COMPLETO E ASSINATURA)



Question 1:

The history of science is an ancient pursuit, but a relatively young discipline. From Aristotle through the early nineteenth century, practitioners of one or another branch of knowledge have variously used the history of their field to argue for its dignity and importance, introduce it to beginners, situate it within a broader cultural milieu, summarize the literature to date, position themselves in relationship to that literature, praise and blame predecessors, give evidence of progress, extrapolate a program for future research, and draw lessons concerning the nature of knowledge and the conditions for its flourishing. In works like Joseph Priestley's *The History and Present State of Electricity* (1767) or Georges Cuvier's *Rapport historique sur les progrès des sciences naturelles depuis 1789* (1808), the history was inseparable from the science.

Lorraine Daston, in [International Encyclopedia of the Social & Behavioral Sciences \(Second Edition\)](#), 2015

Excerpt from Castel & Sismondo - book "The art of science"

Translate this excerpt into Portuguese.



(Question 1: cont.)

Comment this excerpt briefly, using your own words. Answer in Portuguese (10 lines max.)



Question 2:

This essay is to explain the meaning of the history of science, to determine its limits and to show how it should be studied. The history of science is the study of the development of science - just as one studies the development of a plant or an animal - from its very birth. We try to see it grow and unfold itself under many diverse conditions. And it is not enough - as we shall see further on - to study separately the development of each science; one has to study the development of all the sciences together. Besides, it is impossible to separate them satisfactorily one from the other; they grow together and mingle continually in innumerable ways.

There has been much research concerning the history of some particular sciences, and there are, for instance, excellent textbooks on the history of mathematics and of medicine, but there does not exist at the present day even a tolerably good history of science. The reader very likely knows the *History of the Inductive Sciences* by William Whewell, published in 1837. It was certainly a valuable book seventy years ago, but is now antiquated, and any one who does not know the history of science will do better not to use it at all. The best book that we have now at our disposal is that of Friedrich Dannemann, but it is very elementary and can only be considered as a first and rough approximation.

Excerpt from George Sarton - *The Monist*, July, 1916. Vol 26, No. 3. pp.321-365
<https://www.jstor.org/stable/pdf/27900596.pdf>

Translate this excerpt into Portuguese.



(Question 2: cont.)

Comment this excerpt briefly, using your own words. Answer in Portuguese (10 lines max.)

Question 3:

Florensky saw the development of set theory as a brilliant example of how naming can result in mathematical breakthroughs. A "set" was simply an entity named according to an arbitrary mental system, not an ontologically existing object. When a mathematician created a set by naming it, he was giving birth to a new mathematical being. The naming of sets was a mathematical act, just as, according to the Name Worshippers, the naming of God was a religious one-and the operation was performed in the same way. A new form of mathematics was being born, said Florensky, and it would rescue mankind from the materialistic, deterministic modes of analysis so common in the nineteenth century. And indeed, set theory, new insights into continuous and discontinuous phenomena, and discontinuous functions became hallmarks of the Moscow School of Mathematics. The idea that "naming" is an act of creation has a long history in religious and mythological thought. It has been claimed that the Egyptian god Ptah created by naming with his tongue that which he conceived in his head. In Genesis we are told that "God said, 'Let there be light'; and there was light." In other words, he named the thing before he created it. Names are words, and the first verse in the Gospel according to John states: "In the beginning was the Word, and the Word was with God, and the Word was God." In the Jewish mystical tradition of the Kabbalah (Book of Creation, Zohar) there is an emphasis on creation by naming, and the name of God is considered holy.

Excerpt from L Graham and JMKantor, "NAMING INFINITY"

Translate this excerpt into Portuguese.



(Question 3: cont.)

Comment this excerpt briefly, using your own words. Answer in Portuguese (10 lines max.)