Final Report Summary - HEADLINES (HEADLINES. A historical study of the iconic transverse section of the head and the process of building a scientific consensus about the mind (1400-1550))

PROJECT DESCRIPTION AND OBJECTIVES. “Headlines” is a research project about visual representations of “brain functions” and their role in the process of building scientific consensus about cognition in the early Renaissance. An iconic picture came into use in the thirteenth century, beat other visual solutions in the fifteenth century, and continued to feature learned books on the ratio as late as the seventeenth century, despite significant conceptual changes in the theory illustrated. This iconic scholarly picture has, therefore, been of great epistemological value to the study of human cognition in Europe, carrying concepts of Aristotle and Galen into the modern epoch. During the large Renaissance, significant changes were observed in the science of the soul, that branch of knowledge in which cognition was discussed. The unity of the Aristotelian science of the soul fragmented into notably psychology, anatomy, epistemology and mechanical physics.

The typical drawings of the man's head, here under discussion, feature the powers of the so-called sensitive soul – the principle responsible for those cognitive functions inextricably tied to the bodies of living beings and immediately dependent on their organs, i.e. the brain. Only missing in this scheme of sensitive powers is the motive power, that is partly dependent on the organ of the brain, and partly on the heart. This is, by the way, not a complete list of cognitive powers, but only a list of those powers that relate directly to our cognition of particulars, and dependent on the body. Our ability to engage in abstract intellectual thought is not mapped onto the brain regions, because Aristotle had argued that abstract thought cannot be an embodied process, but instead transcends matter.

The stock example of the picture is usually taken from Gregor Reisch’s, Margarita philosophica (1503), which contains one of the most often reprinted illustration of the internal senses. This typical scheme has been discussed furthest back by Walther Sudhoff (Sudhoff: 1913). In this scheme, a series of faculties are located in three ventricles of the brain. We can see that the anterior ventricle contains three senses: common sense, fantasy, and imagination. The middle ventricle contains two: cogitation and estimation. And the posterior ventricle contains only one: memory. Although, there is practically no consensus about the essence and number of the internal senses in medieval philosophy, these drawings present doctrines as if it were a firm consensus.

Therefor, the objective of this research is to gain a better understanding how the iconic image relate to the contingent philosophical contents. For, on the one hand, the image seems static and iconic, but, on the other hand, medieval philosophy had not yet established a consensus about the sensitive soul. This issue can be addressed from different angles:

By which mean (object, mechanism, process) did the iconic picture sweep across Europe's intellectual centers progressively and in only a short period of time?

How do the images of this type relate one to another?

Does the pictures indeed represent consensus, and is the picture indeed iconic (read rigid)?

Is there a close relation between the philosophy presented and the visual argument?

Is there a role for the image in establishing consensus about the sensitive soul?
As the typical sensitive-faculties-image has been in use for about 500 years, it seems a means of importance, establishing a continuum between the medieval and the modern period. But what exactly did it do, in terms of establishing, transferring or transforming cognition knowledge into the modern period, when new notions of cognition were developed and the soul extracted from the body?

RESULTS AND OBSERVATIONS. During the first phase of my Marie Curie Fellowship, I defined and assembled the manuscripts that make up the corpus. Bringing together the corpus of hitherto discovered pictures of this type, I observed a common share: The iconic picture of the powers of the sensitive soul was most likely catalyzed in the mainstream of contemporary scholarly knowledge by means of a text called Parvulus philosophiae naturalis. The Parvulus philosophiae naturalis is written around 1400 by Peter of Dresden, probably in Prague. Even if the Parvulus philosophiae naturalis was widely used in the fifteenth century, it is quite unknown to us. It is a short, late-medieval epitome of about 20 pages, dealing with the main topics in physics of the period. The text has been described to be designated to novices (young students) as its readership, who faced their first introduction to the physics of Aristotle. The text offers a selection of the topics and promises the students a clear introduction that prevents them from making erroneous or even dangerous interpretations.

Instead of the 61 MSS known in the repertories, I have been able to identify around 80 extant manuscript copies. With help of librarians, and several library travels, I have discovered more than 20 diagrams in these manuscripts, hitherto unknown and unpublished. This high proportion has led me to conclude that the Parvulus philosophiae naturalis is the main carrier of this iconographic type of diagram (Verboon: 2014). The diagram however has not been conceived by Peter of Dresden himself. Instead, the diagram has an older tradition, and is related to the Parvulus by its commentaries. The commentaries indeed establish the link between the pictures and the Parvulus. I have distinguished 20 different commentaries so-far, only three commentaries have been identified (see: Kärkkäinen: 2009); the remaining 17 circulated in manuscript, and remained hitherto anonymous. The 80 manuscript-copies, 20 commentaries, and 20 images made up the corpus of my research.

I observed that that the Parvulus was widely read in German universities, Leipzig, Erfurt, Basel, Vienna, Cracow, etc – university towns gaining importance in this period. Indeed, the geographical reach of the Parvulus in the Holy Roman Empire was closely related to the institutional history. Students and masters leaving Prague because of the Kuttenberg decree of 1409 carried their books with them, including the Parvulus philosophiae naturalis, and thereby introduced these works to other universities. Not only the faculties-images related to the Parvulus are tied to the geography of the Holy Roman Empire, but all derivatives of this visual tradition, which makes the iconic picture of the faculties of the sensitive soul, essentially Germanic.

In the second phase of my Marie Curie Fellowship, I studied the relation between the iconic and static pictures (and by extension the textbook) and the disparate philosophies of the cognitive faculties prevalent in the period of time. The central position of the Parvulus Philosophiae naturalis in fifteenth-century education makes it an obvious point of departure in the study of the eventual establishment of consensus about cognition in this period. At first instance, I sought to relate the teachings to local policy and schools of thought. In a second instance, the verbal and visual arguments in the images are compared and analyzed on their doctrinal content.

CONCLUSIONS. Throughout history, the brain has been considered as an important step in the creation of man, though long considered secondary in relation to the soul and the heart. The brain has nowadays even become a subject of the utmost importance in Western culture, with an anthropology built around the concept "cerebral man". Research in the history of cognition can help to understand this development. The early Renaissance seems especially of importance, because in this period the science of the soul fragmented, and dispatched the study of cognition anew over the branches of knowledge.

The discovery of a large number of hitherto unpublished images has narrowed the planned scope, but deepened the case. The result of 20 new fifteenth-century manuscript images comes with the responsibility to disclose these sources. Therefor, instead of the development of a new methodological approach to explain the role of visual images in grounding knowledge, the focus had shifted towards the analysis of the manuscript sources, especially the way this textbook became installed in mainstream...
teaching, and the relation between the textual argument and the visual arguments – as a means to understand its role in establishing consensus.

The project's results then have a potential academical impact and use, on the one hand, in opening up the way of using visual material in the history of science, in terms of visual arguments, pedagogical tools, and thinking instruments. On the other hand, the concrete textbook images here studied disclose a new domain in the philosophical psychology (history of philosophy) that take not only into account the major thinkers of a period, but also unsophisticated educational knowledge, i.e. the reception of Aristotelian philosophy by students. More research however is needed to understand how this affected the transformation the science of the soul at the threshold of modernity.

Mentioned references:

Related information

| Result In Brief | The impact of a scholarly image on scientific consensus |
| Documents and Publications | final1-gregor-reisch-margarita-philosophica-freiburg-johann-schott-1503.jpg |

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