

ABSTRACTS

Yael Nazé, *The Structure of the Universe. When Observation Heads Theory... or does not*

The scientific method is often presented, e.g. to children, as a linear process, starting by a question and ending by the elaboration of a theory, with a few experiments in-between. The reality of the building of science is much more complex, with back-and-forth motions between theories and observations, with some intervention of technology and randomness. This complex process is not always correctly understood and assimilated, even amongst scientists. The hero cult, mixed with some revisionism, still exists despite in-depth historical studies. In this context, it may be useful to comparatively examine the reaction to crucial observations, their interpretation and their impact on the contemporaneous theory development. Four examples are presented here, all linked to the question of the 'construction of the heavens' but at different epochs.

Jonathan Regier, *A Perfect Knowledge is a Finite World*

The world's finitude is at the core of Kepler's natural philosophy. In this article, I will demonstrate that finitude follows necessarily from how Kepler conceives of the world and its Creator as mathematical and mathematically knowable. My analysis will take into account Kepler's reception of 'intensive infinity', his rebuke of Giordano Bruno, and his profound differences with Nicholas of Cusa.

Michel Blay, *Was Copernicus a Copernican?*

Can the adjective 'copernican' be applied to XVIIth-century scholars – and to Galileo in particular? We really do not think so, for there are no occurrences

in which the world, according to Copernico (i.e. *templum Dei*), is similar to the mechanical universe described by Galileo and his disciples from 1610 on. And yet, if we understand 'copernican' in its trivial meaning, not even Copernic himself was a copernican thinker.

NUNZIO ALLOCCA, *The Moon and the Book of Nature. On Italo Calvino and the Legacy of Galileo*

The essay takes a look at the Italian writer Italo Calvino's 'literary' interpretation of Galileo's work, joining in the 20th century epistemological debate on the heuristic role of writing and imagination in science. According to Calvino, Galilean science opened the way to a new conception of individual experience and its description, through a way of writing that paradigmatically embodies the inexhaustibility of knowledge, always open to acquaintance with the infinite variety of the universe, with which the 'great book of nature' is written. For Calvino, Galileo's scientific work is not so totally distinguishable from a work of literature, from a complete mastery of the potentialities of expressive structures, and from a language that in setting out experiences and controversies constantly makes use of stories and metaphors, allowing for science and myth to come together.

SIMONE GUIDI, *The Fable of Matter. Epistemology and Narration In Descartes' Monde*

This article examines the epistemological role of the *fable* as used by Descartes in his *Monde* to present the idea of an entirely mechanical world. Rather than merely a dissimulative-literary device, putting the world into fable form actually turns out to be a real scientific instrument, making it possible for Descartes to re-create the world from a metaphysical and wholly geometrical point of view, based on the changelessness of the divine essence and creation. In this sense his *fable du monde* goes hand in hand with the ability of the human imagination to think up scientific models, that, by being plausible, can be applied to the interpretation of phenomena.

MARTINE PÉCHARMAN, *The Idea of Time and The Universal Time in Pascal*

In his *On the Spirit of Geometry*, Pascal argues that the evidence of the idea of time merely consists in its being signified by an undefined term. Because the word 'time' immediately designates the same object for all, it does not require to be substituted with a series of words explaining it. However, that the word 'time' is undefined does not imply for Pascal that the nature of time cannot be stated. All physical things, Pascal contends, are conceived with the property of time or duration. Like motion, extension and number, time is necessarily conceived as a quantity liable to

increase and decrease *in infinitum*. Any duration is just in the middle between two infinities, the infinitely great and the infinitely small. For Pascal, this demonstrates the necessity for the evaluation of the existence of an individual according to the consideration of eternity.

FRANÇOIS DUBUISSON – BRUNO LECLERQ, *The World has its Language Forms. Wittgenstein and the Linguistic Turn Assigned to the Critique of Pure Reason*

Just like Kant, Wittgenstein believes that the world (we know) gets its forms from the thought through which it is known. But, like Frege and Russell and unlike Kant, the author of the *Tractatus logico-philosophicus* claims that in logic alone (which is analytic rather than both synthetic and *a priori*) lies the 'reason of the world'. The latter Wittgenstein, however, will assign more importance to the rationality which lies in ordinary language and in its use. Language rather than logic is transcendental.