Ancient Logic: Aristotle and the Stoics (I)

The concern with logic and the study of inference can be traced back to the late 5th century BCE. The Sophists (5th century BCE) for instance, and later Plato (422/423- 348/347 BCE) in the early 4th century, displayed an interest in sentence analysis, truth, and fallacies. In the middle of 4th century, the Megarian School was quite active, and one of its members, Eubulides of Miletus, is accredited as the inventor of several well-known paradoxes.

Logic as a fully systematic discipline begins with Aristotle (384-322 BCE). He systematized much of the logical inquiry of his predecessors and his main achievements were his theory of the logical interrelation of affirmative and negative existential and universal statements. Based on this theory, Aristotle worked out the theory of syllogism (known as term-logic). Aristotle's successors in his school, the Peripatos, notably Theophrastus (371-287 BCE) and Eudemus (370-300 BCE), improved some aspects of Aristotle's logic. The ancient Byzantine commentators grouped together several of Aristotle's treatises under the title *Organon* and regarded them as comprising his logical works: *Categoriae*, *De Interpretatione*, *Analytica Priora*, *Analytica Posteriora*, *Topica*, *De Sophistices Elenchis*. In the first part of this talk we analyse in some detail the *Organon* and some modifications by the Peripatetic school.

In the Hellenistic period, and apparently independently of Aristotle's work, the logicians coming from the Megarian School, Diodorus Cronus (second half of the 4th century BCE) and his pupil Philo of Megara (later 4th century) started a logic that took propositions, rather than terms, as its basic elements. They influenced the second major theorist of logic in antiquity, the Stoic Chrysippus (280-207 BCE), whose main achievement is the development of a propositional logic, crowned by a deductive system. Considered by many in antiquity as the greatest logician (known at his times as "The Logician" or also "The most logical one"), Chrysippus was innovative in a large number of topics. From his work we get a detailed analysis of sentential (propositional, statement) logic, such as for example the truth-functional analysis of the conditionals. The Stoic successors of Chrysippus systematized his logic, and made some additions. The second part of this talk is concerned with the Stoic school and its development.