

Carol Poster and Richard J. Utz eds.

*Constructions of Time in the Late Middle Ages (= Disputatio 2).*

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The second volume of *Disputatio* is dedicated, as the title indicates, to various late medieval (1300-1550) concepts of time. Ten essays of variant lengths composed by ten medieval scholars have been selected by the editors, Carol Poster of Montana State University and Richard Utz of the Universität Tübingen and the University of Northern Iowa. The selected scholars and their essays are Peter Travis of Dartmouth College, "Chaucer's *Chronographiae*, the Confounded Reader, and Fourteenth Century Measurements of Time;" Thomas Gil of the Universität St. Gallen and the Freie Universität Brüssel, "Zeitkonstruktion als Kampf- und Protestmittel: Reflektionen über Joachim's von Fiore Trinitätstheologische Geschichtskonstruktion und deren Wirkungsgeschichte;" Edgar Laird of Southwest Texas State University, "Astrolabes and the Construction of Time in the Late Middle Ages;" Anthony J. Cárdenas of the University of New Mexico, "A Learned King Enthralls Himself: Escapement and the Clock Mechanisms in Alfonso X's *Libro del saber de astrologia*;" Thorsteinn Vilhjalmsson of the University of Iceland, "Time and Travel in Old Norse Society;" Samer Akkach of the University of Adelaide, "Ibn Arabi's Cosmogony and the Sufi Concept of Space and Time;" Ian Wilks of Erindale College, University of Toronto at Mississauga, "The Use of Synchronic Contingency in Early Fourteenth Century Debate over the World's Temporal Duration;" Chris Schabel of the University of Cyprus, "Aufredo Gonteri Brito secundum Henry of Harclay on Divine Foreknowledge and Future Contingents;" Edith Wilks Dolnikowski of The Church of Our Savior, Brookline, Massachusetts, "*De Memoria Artificiali*: Time and Memory in the Thought of Thomas Bradwardine;" and J.D. Alsop, of McMaster University, "*Thirty Days Hath September*": Oral Rendition of Time in Sixteenth-Century England."

Travis offers five methods of time management: 1. Years beginning with Christ's resurrection. 2. Philosophical linear time contrasted to all motion beginning with the *Primum Mobile*. 3. Mechanical Time depending on a device to achieve escapement or evenly spaced intervals of time. 4. Astrolabic time depending on stellar bodies to indicate hours. 5. Kalendric time or a catch-all which includes the other methods of measurement. Travis examines three well-known Chaucerian passages which appear to indicate dates and time of day, concluding that each passage in its own way contains inaccuracies. Gil concentrates on Joachim of Fiore, who sees history of all time as indicating a better future of improved knowledge, love, freedom, friendship, and relationship with God. Joachim's theory offended a number of

ecclesiastical leaders of his own time but also in the long run gave impetus to the coming Protestant Reformation.

Laird considers the physical reality of the astrolabe as contrasted to the spiritual reality of other concepts of time. The astrolabe was a functional hand-held instrument which at its best could reveal not merely the hours of a given day but the rhythm of the celestial spheres and by implication their effect upon mankind.

Cárdenas examines the many skills of Alfonso I (el Sabio), the thirteenth-century King of Castile and León. Alfonso, almost unique among medieval kings (one thinks of Alfred the Great but not many others) sponsored learning in history, law, religions, science, and recreation. In science Alfonso left us the Alfonsine Tables, known to, among many others, Nicholas of Lynn, the creator of a fourteenth-century *Kalendarium*. Alfonso experimented with many time-telling methods, always searching for a means of escapement, or a mechanical device which would demonstrate equal intervals of time. An escapement depends on gravity, and Alfonso studied the clepsydra (water clock), a mercury clock, and a clock based on the burning of a candle. All of these objects alter themselves at an even rate and therefore give a kind of escapement.

Vilhjalmsson ponders how the Vikings, without any real time- and direction-telling devices, such as the astrolabe or compass, were able to maintain transoceanic travel for centuries. The Vikings depended on the peculiarities of the subarctic sun, which always remained close to the horizon, when it was visible at all, and was therefore easier to measure than a high tropical sun. The principal means of measurement, *eykt* or octant, indicated one eighth of the 24-hour day. On land the octant was measured by the position of the sun in relation to visible objects such as a tall tree. At sea more skill was involved because when out of sight of land a sailor could tell little more than the south point of the sun. The Icelandic sagas and archaeological excavations along the North American coast, however, do tell us that, in spite of the lack of adequate instrumentation, the Vikings were able to cross the sea, keeping in a given direction and counting days to learn how far they had come.

Akkach writes about the Sufi, a sub group of Islam which was known for accommodating itself to other creeds. By the twelfth century in Spain the Sufi dominated Islamic metaphysics with their search for the meaning of human and Divine existence. Their greatest master was Muhi al-Din Ibn Al-'Arabi or Ibn Arabi who discussed the Divine attributes of Life, Knowledge, Will, and Power, which he related to what he called the four realities of Heat, Cold, Dryness, and Moisture, which are familiar to students of medieval astrology. In addition Ibn 'Arabi wrote on the three attributes of Speaking, Hearing, and Seeing, which combined with the four attributes mentioned above yielded a structure of seven Divine names. These were placed in juxtaposition to the seven days of the week, yielding a Divine concept of all time.

Wilks examines a dispute based on synchronic contingency, that is does the present moment depend on past possibility or does it contain its own present possibility. The question pertains to the eternity of the world. How can the world be said to be eternal when at the time when God created existence there was

not existence? If there was a time when there was not existence, the time of the world must be finite. This problem was posed by Henry of Ghent, who proposed two levels of necessity and was answered, unsatisfactorily according to Wilks, by Ockham and Duns Scotus.

Schabel continues with a similar argument about future contingents which he extends to the problem of freedom of the will. Henry of Harclay in the early fourteenth century posed this question about God's foreknowledge and was apparently copied (Schabel says almost verbatim) by Aufredo Gonteri Brito. Two of Henry's major questions and Gonteri's version are offered in the original Latin as appendices to this essay, along with a form of corpus or variants showing distinction between the two writers.

Dolnikowski examines the early fourteenth-century position of Thomas Bradwardine on time, memory, and motion, although she says nothing about Bradwardine's deterministic approach to the problem of free will. Time to Bradwardine is linear. Within the continuum of time smaller continua of motion can be observed. Time for mankind may be a continuum, but to God all time is all a single moment. Here Bradwardine depends on St. Augustine and Boethius. Human memory is also a series of small continua within time, and here Bradwardine draws on Aristotle.

Alsop quotes a sixteenth-century version of the common rhyme, "Thirty days hath September...", which he found in a notebook belonging to an officer of the Elizabethan Exchequer of Audit at Westminster. Alsop wonders if the fact that this officer included the rhyme in his notebook would indicate that the verse was rare in Tudor society.

The editors of this collection deserve congratulations for compiling such diverse attitudes in the medieval concept of time. Some minor errors occur and should have been caught in proofreading: p. 11 endnote 26 is indicated but the note is missing on p. 31; p. 54, line 32, "lenghts" for "lengths"; p. 100 in the third line of the translation, "wether" for "weather". Last, I think that the authors' names might have included at the top of each page.

The concept of time in the middle ages was a complex subject based on observational astronomy (Ptolemaic), religious beliefs, and philosophical dicta. Like medieval astrology it was generated by faith compounded with rudimentary astronomy. Like an comprehensive study of history, the book has value because it teaches us the sources of our convictions today.

**KEYWORDS:** Time, Contingency, Freedom of the Will, Sufi, Viking Travel, Astrolabe, Joachim of Fiore, Chaucer

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