fit into the morally structured interpretation, as happened during Giovanni's last unhappy years of economic reverses and political upheavals? Green points out that two solutions were available to him. In dealing with the material of history, either he could overemphasize the role of the supernatural, interpreting omens and signs in an apocalyptic way (the solution chosen by Villani), or he could blame human folly for the failure of events to work out as they should. Giovanni's brother Matteo and his successors chose the latter alternative.

The Black Death, Florentine factional strife, and a politically alienated papacy dominated the pages of Giovanni's brother Matteo Villani. In those bad times, "history could ... only be a series of disasters interspersed with periods when heedless human folly had free play." (45) Giovanni Villani's grand design was shattered; Matteo had to come to terms with a world in which no human resources were truly dependable. Retaining a moral interpretation, he emphasized the weakness of man's nature as responsible for contemporary evil. History, the record of man's folly, could show him the error of his ways and thereby induce reform. Thus, Green argues, Matteo Villani felt that history no longer so much revealed the workings of divine providence as taught ethics. And, since man must learn from the past, his sphere of action was broadened.

Signs and wonders still influenced history in Matteo Villani's chronicle, but occurred only in relation to specific events, not the overall pattern of reality; thus their importance was diminished. In his successors both divine providence and preternatural signs disappeared almost completely from the scene. In the works of Stefani and pseudo-Minerbetti, the separation of the supernatural and natural world was complete, the chronicler's inspiration secular, and facts interpreted only in terms of the natural world. With Dati, history took a new turn, part of the re-evaluation of the Florentine past and present now called civic humanism. Here Green's work should be read in conjunction with Hans Baron's analysis of Dati in his *Crisis of the Italian Renaissance*. Most interesting is Green's comparison of Dati with Giovanni Villani in his re-imposition of a set of moral imperatives, now secular, on the interpretation of history, a new twist on the old way of making events fit the historian's world view and inexorably fulfill the destiny of Florence.

This is a rich analysis, sound in its conception. Not every student of Florence will agree with every element of Green's interpretation, but this is an intellectually honest study that accomplishes what it set out to do. The author's style is unfortunately difficult, given his tendency to use six words where three would do; but Florentinists will rise above this minor defect to appreciate the merits of the work.

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William R. Shea. *Galileo's Intellectual Revolution. Middle Period, 1610-1632*. New York: Neale Watson Academic Publications, Inc., 1972. Pp. xii, 204.

This is a well written and philosophically literate account of Galileo's work in the years when he "worked out the methodology of his intellectual revolution," concentrating upon his researches in hydrostatics and astronomy and on his support for the heliocentric theory. Shea's purpose enables him almost to ignore Galileo's conflict with the church as merely incidental, and to place his investigations of motion in the background. The result is a

book of novel but persuasive balance, that conveys a coherent and broadly convincing picture of the development of Galileo's scientific thought. There are seven chapters, on his debt to Archimedes, work on hydrostatics, sunspots, the comets of 1618, and a detailed analysis of the *Dialogue Concerning the Two Chief World Systems* (The End of the Aristotelian Cosmos; The World in Motion; and The Physical Proof from the Tides). The emphasis throughout is on Galileo's methodology, and Shea's demonstration of the significance of geometry therein is particularly cogent. Thus, for example, Galileo is represented as declaring himself in favour of the Copernican system only after he had succeeded in using mathematics in dismantling the latest published argument against the motion of the earth, and his proof of the earth's motion from the behaviour of the tides is presented in terms of a derivation from geometrised physical postulates.

Shea is convincing whenever he is dealing with particular texts or particular sequences of argument and experiment, and, for example in his careful use of manuscript revisions, exhibits a fine historical sense. His generalisations and attempts to portray Galileo in the world picture of his age are, on the whole, less happy, perhaps because less fully documented. The appeal of Copernicanism to young intellectual radicals is postulated but inadequately substantiated, and Galileo's relations with Renaissance humanism and Platonism are alluded to but not made apparent. Shea enters with zest into the debate on Galileo's Platonism, claiming that "Galilean science was not so much an experimental game as a Platonic gamble," but this claim is weakened by his use of Platonism to indicate merely the use of mathematics in science, and the application of reason to experience to educe knowledge. In view of the clear recognition of Galileo's skill in rhetoric, the uncritical acceptance of Galileo's use of Plato's name as evidence of subscription to Platonism is disappointing. Shea's research supports Koyre's position that "Galileo conducted most of his experiments in his head and on paper," but recent scholarship indicates that this is far from being a settled issue. Also in relation to the Platonic controversy, the presentation of circular inertia and perfect circular motion as cornerstones of the heliocentric theory is weakened by Galileo's own counter-statements (e.g. p. 90) and Shea's arguments that Galileo regarded astronomy as a science of description and representation. Yet these controversial points are clearly and forcefully argued, and Shea's book is an original and valuable addition to the literature. It is supplemented by a brief but well-chosen bibliography and helpful index.

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Anthony Molho, *Florentine Public Finances in the Early Renaissance, 1400-1433*, Harvard Historical Monographs 65, Harvard University Press, Cambridge, Mass., 1971. Pp. xiv, 234. \$10.50.

Professor Molho has given us the fiscal history of a brief, but turbulent, period in the political life of Florence which encompassed both a decade of relative peace and stability and a decade of war and defeat. As a result, the study benefits from the opportunity to contrast the commune's fiscal policy under varying conditions and to observe her capacity to respond to intense crisis. A highly condensed chapter on communal expenditures, mainly for military purposes and debt service, is followed by a short chapter on the regular sour-