

of the important theorems connected with the four colour problem are here, for the first time, collected in one book.

W. T. Tutte

De proportionibus proportionum and Ad pauca respicientes, by Nicole Oresme. Edited with introductions, English translations, and critical notes by Edward Grant. The University of Wisconsin Press: Madison, Milwaukee, and London, 1966. xxii + 466 pages, 11 plates. \$10.75.

"No scientific figure in the Middle Ages combines in his works such originality with the more traditional views of natural philosophy as does Oresme" - this is the judgement of Prof. Marshall Clagett, editor of the well known series in which this edition of two of Oresme's treatises is published. Perhaps best known to mathematicians for his theory of the 'latitudines formarum', a kind of graphical representation of variable quantities, Oresme (1323?-1382) also brought to higher perfection the theory of proportions which was first developed by Thomas Bradwardine (1290?-1349). This Oxford mathematician had replaced the customary form $V \propto \Gamma/R$ of Aristotle's law of motion (V = velocity, F = motive power, R = resistance)

by the more sophisticated relation $F_2/R_2 = (F_1/R_1)^{V_2/V_1}$; the expression on the right hand side of the last equation was called a 'ratio of ratios'. "De proportionibus proportionum" is a treatise about the handling of such 'ratio of ratios'. It is more advanced than the better known "Algorismus proportionum" of the same author. Of particular interest is the consideration of irrational 'ratios of ratios' and the conclusion that the heavenly motions (which are considered in greater detail in the second treatise of this edition) are most probably incommensurable to one another. This gives Oresme a weapon with which to fight against astrological prediction.

The present edition of the Latin texts is based on several manuscripts and equipped with an English translation, a lengthy introduction, variant readings, critical notes, bibliography and index. Other works by Oresme are being prepared for edition in the same series. They will help to prove - if a proof is still needed - that the so-called "dark" Middle Ages were not so dark, after all, as previous generations were used to believe.

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Lecons sur les fonctions calculables, par V. A. Ouspenski, Traduit du russe par André Chauvin. Hermann, Paris, 1966. 412 pages. 48F.