7. R. Goldblatt, *Topoi, the categorical analysis of logic*, North-Holland, Amsterdam, 1979.

8. J. W. Gray, *The categorical comprehension scheme*, Lecture Notes in Math., vol. 99, Springer-Verlag, Berlin and New York, 1969, pp. 242–312.

9. _____, *Formal category theory: Adjointness for 2-categories*, Lecture Notes in Math., vol. 391, Springer-Verlag, Berlin and New York, 1974.

10. _____, *Fragments of the history of sheaf theory*, Lecture Notes in Math., vol 753, Springer-Verlag, Berlin and New York, 1979, pp. 1–79.

11. P. Johnstone, *Topos theory*, London Math. Soc. Monographs, no. 10, Academic Press, New York, 1977.

12. G. M. Kelly, *Adjunction for enriched categories*, Lecture Notes in Math., vol. 106, Springer-Verlag, Berlin and New York, 1969, pp. 166–177.

13. _____, *Structures defined by finite limits in the enriched context*. I, Cahiers Topologie Géom. Différentielle **23** (1982), 3–42.

14. G. M. Kelly and R. H. Street, *Review of the elements of 2-categories*, Lecture Notes in Math., vol. 420, Springer-Verlag, Berlin and New York, 1974, pp. 75–103.

15. A. Kock, *Synthetic differential geometry*, London Math. Soc. Lecture Note Ser., No. 51, Cambridge Univ. Press, New York, 1981.

16. F. W. Lawvere, *An elementary theory of the category of sets*, Proc. Nat. Acad. Sci. U.S.A. **52** (1964), 1506–1511.

17. _____, *The category of categories as a foundation for mathematics*, Proc. Conf. Categorical Algebra (La Jolla, 1965), Srpinger-Verlag, New York, 1966, pp. 1–20.

18. F. E. J. Linton, *Autonomous categories and duality of functors*, J. Algebra **2** (1965), 315–349.

19. S. Mac Lane, *Categories for the working mathematician*, Springer-Verlag, New York, 1971.

20. M. Makkai and G. E. Reyes, *First order categorical logic*, Lecture Notes in Math., vol. 611, Springer-Verlag, Berlin and New York, 1977.

21. E. G. Manes, *Algebraic theories*, Springer-Verlag, New York, 1976.

22. L. D. Nel, *Enriched algebraic categories with applications in functional analysis*, Lecture Notes in Math., vol. 915, Springer-Verlag, Berlin and New York, 1982, pp. 247–259.

23. J. W. Pelletier, *Kan extensions of the hom functor in the category of Banach spaces*, Ann. Sci. Math. Québec **4** (1980), 59–71.

24. R. H. Street, *Fibrations in bicategories*, Cahiers Topologie Géom. Différentielle **21** (1980), 111–160.

25. _____, *Conspectus of variable categories*, J. Pure. Appl. Algebra **21** (1981), 307–338.

26. J.-L. Verdier, *Topologies et faisceaux* S. G. A. A. fasc. I., 1963–64.

JOHN W. GRAY

The evolution of dynamics, vibration theory from 1687 *to* 1742, by John T. Cannon and Sigalia Dostrovsky, Studies in the History of Mathematics and Physical Sciences, Vol. 6, Springer-Verlag, New York, 1981, ix + 184 pp., $38.00. ISBN 0-3879-0626-6

The publication in 1687 of Isaac Newton's monumental treatise *Principia Mathematica* has long been regarded as the event that ushered in the modern period in mathematical physics. Newton developed a set of techniques and methods based on a geometric form of the differential and integral calculus for dealing with point-mass dynamics; he further showed how the results obtained could be applied to the motion of the solar system. Other topics studied in the