closely related to cortical funneling in ways that are not at all understood.

Von Békésy does not adopt a single viewpoint or comprehensive theoretical position toward funneling and inhibition processes. Rather, he shows the advantages of a many-sided investigation of these phenomena. The experiments presented succeed in demonstrating funneling and inhibition as processes common to different sensory organs and to different levels of the nervous system. The research reported thus discloses the commonality among diverse phenomena. The pulling together of different phenomena in a way that reveals similarities will provide stimulating insights not only to sensory physiologists and psychologists but also to those interested in more complex perceptual and decision processes. Von Békésy's research clearly fulfills the quotation from Goethe inscribed at the beginning of the book—*Willst du ins Unendliche schreiten geh nur im Endlichen nach allen Seiten.*

JACOB BECK

Department of Psychology,
University of Oregon, Eugene

Newton as an Elder Statesman

The Correspondence of Isaac Newton. Vol. 4, 1694–1709. J. F. SCOTT, Ed. Published for the Royal Society by Cambridge University Press, New York, 1967. 611 pp., illus. $38.50.

With the publication of this fourth volume the monumental Royal Society edition of the correspondence of Newton has now turned the corner toward completion of its seven volumes. It is very fortunate that J. F. Scott was available and willing to shoulder the heavy burden of continuing the work which had been carried so far by the late H. W. Turnbull.

The present effort covers the years 1694–1709, and since Newton's earliest letters were from 1661 the four volumes represent about three-quarters of his writing years (he died in 1709), leaving the next three volumes to contain the last quarter of years, the undated material, and the collected indexes and scholarly machinery. This fourth volume, though only slightly larger in pages than its predecessors, carries almost twice as many individual items. As a sign of the times, in the lapse of five years or so during the change of editors, the price of the volumes has jumped to half as much again; but then no standard library or specialist researcher on Newton and his period can afford to be without constant access to this fundamental work of the highest caliber.

The Newton that is found in the pages of this volume is already the elder statesman of science, reaping the just rewards of the *Principia* and beginning, seven years after its publication, to toy with the idea of extending it in a second edition. To continue his work with the fundamental lunar theory he had need of the observations of Flamsteed; and so developed one of the most famous and unpleasant altercations between scientists of great worth but incorrigibly prickly character. Further in the matter of rewards, Newton was appointed to his office at the Royal Mint, an office which was intended as a sinecure, but taken so conscientiously and seriously that one must credit quite a lot of the later economic strength and security of England to the efficient reforms and administration of Newton; perhaps one might suggest that the next Nobel prizewinner should be drafted to a similar "sinecure" in the office of Postmaster General. From the same period comes Newton's absolutely uneventful term as a Whig University Member of Parliament, and his being knighted, though exactly why he got these two honors still remains a rather dark mystery.

As usual with the Newton material—and we can expect nothing different from the remaining volumes—there is hardly a trace of the human being existing within this scientist shell. Even the tirade at Flamsteed, though violently angry, nevertheless maintains a certain impersonality. Just a touch of the triumphant mathematician may be seen in number 561, where he copies at length the challenge to solve the problems of the brachistochrone as just proposed by Bernouilli, then adds, "Thus far Bernouilli. The solutions of the problems are as follows. . . ." Perhaps most important is the interesting matter of number 695 and number 697, where Newton writes to Sloane to arrange for Francis Hauksbee, well-known inventor of electrical machines and of a fine new air pump, to bring his pump and demonstrate the phenomena of vacuum. What is interesting is that Newton suggests that Hauksbee come to his house where he can "get some philosophical persons to see his Expts who will otherwise be difficultly got together." It must be supposed from this that there is some possibility that a group of the Royal Society amateurs may have actually met at Newton's house; it gives an image far from that of the completely antisocial recluse.

Of more direct scientific interest in this volume, apart from the already mentioned and very extensive contributions to lunar theory, there is a fine dissertation on the quantifying of degrees of heat in the temperature scale, with astute experimental observations on melting points and other fixed marks in the range. To speak, however, of the matter of scientific content rather than the historical information of the letters must bring up another publication that has just started to come forth from the Cambridge University Press in their same superlatively competent style. The new series is that of *The Mathematical Papers of Isaac Newton*, of which the first of a projected set of eight volumes has just come out, edited by D. T. Whiteside [reviewed in *Science*, 13 Oct. 1967]. Now that we have both sets of Cambridge University Press volumes begun and a full variorum edition of the *Principia* long promised and on its way, we may take this passing of the halfway point of the *Correspondence* as a signal that Newton studies have now become very much an excitingly successful and full-time occupation for very competent people.

DEREK J. DE SOLLA PRICE

Department of History of Science and Medicine, Yale University,
New Haven, Connecticut

Whither Queues?

Queuing Theory: Recent Developments and Applications. Proceedings of a NATO Science Committee conference, Lisbon, Sept.–Oct. 1965. R. CRUON, Ed. Elsevier, New York, 1967. 240 pp., illus. $13.50.

"Queuing theory" is a term of recent vintage (the 1940's) for mathematical studies of situations producing congestion and hence delays or waiting lines (queues). The typical mathematical model is that of a service system in which a stream of demands for service appears before a service center with one, or many, servers, and either the time epochs at which demands are made or the service time required, or both, have a probabilistic (stochastic) character. With the appearance of a flood of recent books, the study of this model in all its many guises, elaborations, and variations may be regarded