Assessment (OTA). Created in 1972 to supply in-house expertise ("on tap, not on top," remarked one Congressman), OTA has been all but ignored by the real centers of policyshaping, the congressional committees. Congress has steered the office away from military and space considerations. Casper's advice: Involve the best scientific experts in policy formulation—and then heed their counsel.

THE MATHEMATICAL

EXPERIENCE by Philip J. Davis and Reuben Hersh Birkhäuser, 1981 440 pp. \$24



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The disciples of the Greek Orphic mystery cult in the sixth century B.C. were possibly not the first thinkers, and certainly not the last, to believe that mathematics "works" because the universe itself is harmonious, musical, mathematic, but others have argued, less grandly, that it works because man makes it work. This genial difference of opinion, along with other issues in the history and philosophy of the discipline, receives clear and intelligent exposition from Davis and Hersh, mathematicians themselves. Mathematicians, whatever their persuasion, have al-ways cherished the rigorous proof, "the ritual and delight of pure reason." In a field with so many concrete applications, in science and cybernetics, the purists still concern themselves most with the beauty and elegance of a proof. The greatest mathematicians have usually worked in near-isolation, their work often becoming incomprehensible to later generations. (Many of Newton's writings suffered this fate.) Similarly idiosyncratic is the thought process: Einstein said that he always began with visual images ("and some of muscular type") and that only later did words and algebraic signs come into play. Davis and Hersh have made an important, esoteric field more accessible to readers still daunted by checkbook computations.

> The Wilson Quarterly/Autumn 1981 163