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Technology Review, November 1961

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[Image on the left of the page, M.I.T Photo]
LEFT PANEL OF NEW MURAL DECORATIONS PAINTED FOR THE INSTITUTE'S WALKER MEMORIAL BY EDWIN H. BLASHFIELD, '69, SUPPLEMENTING HIS DECORATION OF THE SOUTH END OF THE HALL

THE TECHNOLOGY REVIEW

that it seems worth while to present a critique of the work. Perhaps by so doing, readers may be induced to turn the work itself.*

A survey of the notion of time in ancient, particularly Greek, philosophy, which reveals again the dependence of us moderns upon Greek thought, is followed in Professor Gunn's work by an account of the mediaeval conceptions of time, of which that of Augustine is honest if not very enlightening: "What, then," he asks, "is Time? If no one asks me I know: if I wish to explain it to one that asketh, I know not." Of one thing, however, he was sure: that time, whatever it may be, was "created by God at the creation of the world," a belief comforting, doubtless, to the thinking fundamentalist - if fundamentalists do think. How this conception can be reconciled with the other, equally valid, doubtless, that "In the beginning was the word," must be left to the theologians or to the scientific reconcilers of science and religion. "In the beginning" implies time (There stands Religion); but when the world (and motion), were created time also was created and measured. (There stands Science.) The reconciliation follows obviously.

Augustine distinguished between psychological and objective time. He perceived that time is "a certain extension." He perceived, following Plotinus and preceding Poincaré, that as "we use time to measure motion, . . . so we cannot well use motion to measure time." But in spite of many foreshadowings of modern ideas, "For the scholastic mind," says the author, "time, like space was unimportant." Perhaps, however, it was not so much that Time and Space were unimportant as that they were overshadowed by the far greater importance to the scholastic mind of God, the creator of Time as of all other things. It was "the new science that was rising under the impetus of thinkers such as Galileo, Newton, and Leibnitz, that was to "raise both space and time . . . to the rank of supreme of fundamental realities of the physical world."

TRACING progress through what he calls the "early moderns" the author points out that anticipations of Relativity contained in the philosophy of Descartes were sacrificed by sciences to "the more immediately useful" hypotheses of Newton; and, as the creator of time, God himself was, not sacrificed precisely, but relegated to the background of the picture, the foreground being filled by the bodies of the cosmos moving mechanically and objectively, in space and time. Time had become "an objective reality independent of our perception of it," and, moreover, of interest only as measurable. Newton, indeed in his Absolute Time, or "duration" assumed a something, flowing uniformly, the measurement of portions of which gives us relative or common time. But, "Newton's Absolute Time, like that of the Relativists, was based, not on a specific inquiry into the nature of Time as such, but upon physical and mathematical requirements, dictated by the science of the day." Newton to justify his Absolute Time, postulated also Absolute Motion, which, he says, we know, and Absolute Space;

*THE PROBLEM OF TIME: AN HISTORICAL AND CRITICAL STUDY. By J. Alexander Gunn, M.A., B.Sc., Ph.D., Professor in the University of Melbourne. Sometime Fellow of the University of Liverpool. New York: Richard R. Smith, Inc.



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"The Problem of Time" in *Relativity and Quantum Theory*, By J. Alexander Gunn, M.A., B.Sc., Ph.D., Professor in the University of Melbourne. Sometime Fellow of the University of Liverpool. New York: Richard R. Smith, Inc.

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