

is not quite the correct significance of the phenomena observed. To equate this self-stimulation with reward is to equate it with a consummatory act. A consummatory act is accompanied by gratification and is followed by quiescence and by cessation of appetitive or searching behavior. Prior to culmination of the consummatory act an animal continues to search incessantly for gratification. This is manifested as "repetition compulsion" in myriad forms resembling the self-stimulation phenomenon. A rat, for instance, may copulate 50 times in rapid succession but stops after ejaculation.

From the physiological as well as the psychological standpoint it would appear that this self-stimulation has to do with the "promise of a reward," with a productive phenomenon anticipating the consummatory act. The questions to be asked are: Does it lead to cessation of the specific behavior? Is it followed by relaxation and sleep? Does a new form of behavior develop upon awakening? If an animal were to be stimulated in such a way that this sequence of events were to occur, we could properly refer to such stimulation as involving a reward system. (For comparison, consider the case of the donkey with a carrot held out in front of it. The Olds-Milner system never allows the donkey to get the carrot.) Otherwise we should continue to employ the term first used by Olds and Milner: *positive reinforcement system*.

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Letters in "Science"

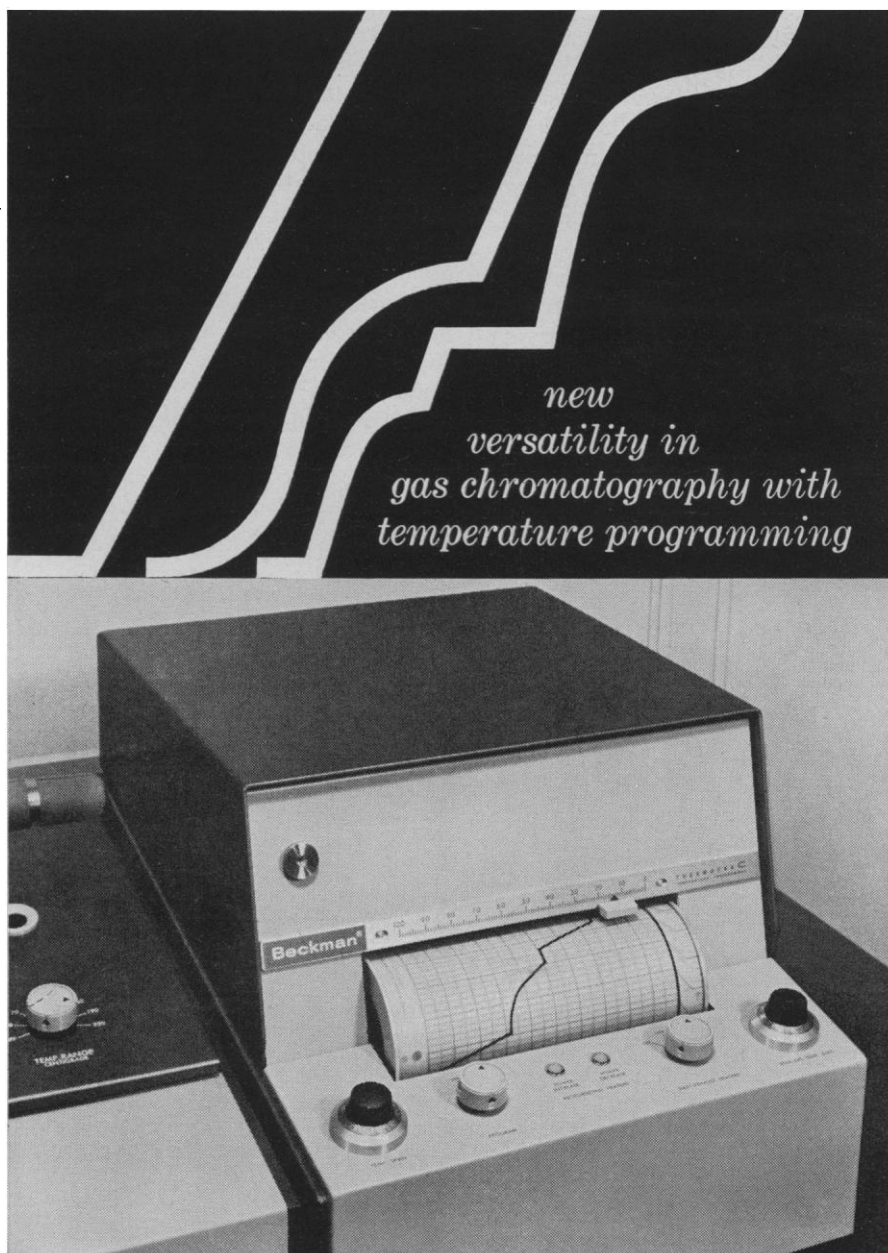
I hope you will permit a reader from foreign parts to offer his thanks to Conway Zirkle for writing the letter on degrees and titles [*Science* 133, 1626 (1961)] and to you for publishing it. The activities of the Society for the Rationalization of the Title of Doctor cannot be too widely known. And while I am about it, thanks also to Kirby Walker for his letter, in the same issue (p. 1648), on books as prestige objects.

To those of us who spend our lives contemplating the dreary acres of scientific literature unrelieved by a spark of wit, it is a real joy to read such correspondence in a scientific journal.

BENJAMIN FULLMAN

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18 AUGUST 1961



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