

PROGRAMMER



Model 5350

The Model 5350 Programmer is an electro-mechanical function generator, consisting of a digitally controlled servo-system driving a 10 turn potentiometer at a wide range of sweep rates. The Programmer finds application in the process control field with other instrumentation, whose output is controlled by a resistance or resistance ratio, such as powersupplies, magnetic generators, audio or RF oscillators as well as temperature, deposition-rate, vacuum and similar controllers.

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INSTRUMENTATION

1314 Hanley Industrial Court, St. Louis, Mo. 63144
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CRYOGENIC Temperature Controller



Model 5301

Accurate temperature control in Research Dewars, Cryogenic Freezers, Tensile Cryostats for physics, chemistry, metallurgy and other scientific fields where the process, temperature and/or control requirements change frequently. System features control stability better than .01°K from below 0.3° to 320°K with less than one micro-watt power dissipation in the sensor. Three mode control: Proportional, rate and reset with internal parameter controls, allowing to tune the controller to thermal characteristics of the system. 100 watts output, short circuit proof, DC for minimum interference to other low level instrumentation.

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letters

Your reviewer seems to imply that very few people who read daily astrology columns really believe in astrology. In this connection, I would like to note that the recent Gallup Poll (*New York Times*, 19 October 1975) indicates that 32 million Americans "believe that stars influence people's lives." This is a frightening statistic in an age of reason. It shows that it is up to the scientist to inform these 32 million Americans that astrology is pure hokum.

Scientists who do not speak out against astrology are guilty of gross neglect of their social duties.

BART J. BOK

University of Arizona

4/5/76

Surplus equipment

I continue to be amazed by the uninspired policy which we currently employ nationally for the disposition of surplus government equipment of value, in one form or another, for research and teaching purposes. The situation is, of course, that if you are the recipient of support you then qualify for more support, inasmuch as you are eligible to make requests for the acquisition of surplus equipment.

Has any analysis been made of where the equipment ends up and how effective is its utilization? I am not aware of any such study. My guess is that the utilization is poor and that in fact a very large fraction of the surplus material sits in corridors and dead rooms, essentially lost forever.

Here is an alternative policy, surely worth a try. Each year large numbers of applicants submit worthy proposals to agencies but are denied support for the well known reasons. Why not offer token grants to the applicants whose proposals for research or instruction are not devoid of merit? Such grants could be, for example, one dollar a year, but carry eligibility to apply for surplus material. Considerably more realistic would be a policy of the award of grants of say, \$1000 to experimentalists who submit good but "unfunded" proposals. Then not only would we be eligible to apply for surplus equipment but we would also have some money to pay shipping charges.

ARTHUR R. QUINTON

University of Massachusetts

Amherst

6/23/76

Unauthorized alterations

I would like to raise a question about the publication process which has not been mentioned in previous correspondence in these columns. Specifically I am referring to the alteration and re-writing of papers after their acceptance and without the author's permission or knowledge, at

least until the proofs are received with a strongly worded note concerning the charging of alterations. I would suppose that failure of an author to protest at this point is taken retrospectively as authorization, although I personally question the validity and propriety of that interpretation. Let me emphasize that I do not question such purely cosmetic alterations as are made to ensure uniformity of style (such as the placement of punctuation in lists of references), but substantial re-writing and re-arrangement with not even a sentence-to-sentence correspondence between the submitted (and accepted) paper and the re-written version.

The publication of papers is such a fundamental part of scientific activity that the need for some public discussion of this issue seems obvious. Also needed is some method by which particular journals may be called to account, as channels of communication within the learned societies which are responsible for most journals can become extremely atrophied at times. Hence the best hope for change, or even discussion, is the force of opinion within the scientific community at large, beyond the speciality concerned.

D. SHER

Cincinnati, Ohio

7/14/76

Physics in poetry

Whether or not your readers agree with Victor Weisskopf that physics is, after all, human, they must surely recognize that he is one of the most human and humane of physicists. His article in June (page 23) demonstrates that again. He is a marvelous bridge-builder between what C. P. Snow called "the two cultures."

The translation of the Goethe poem on light by Weisskopf and Douglas Worth distorts that poet's intent in one small but basic way. Goethe did not write of "chromatic" light—which is colored light or light after it has been split into its component frequencies by a prism or grating. Quite the contrary, he insisted in his *Farbenlehre* that natural light, or sunlight, was unitary, undivided, and integral. Only the artificial tricks and torments of the experimenter (Newton) teased the pure undifferentiated light into deceptive colors. Colors came from the prism!

When Goethe in that poem called on his friends to recognize the general and eternal basis or foundation of the *Farbenlehre*, he meant his own doctrine or dogma, which he set forth finally in a vast and largely fallacious treatise, known as the *Farbenlehre*.

Whitman's haunting poem *When I heard the learn'd astronomer*, quoted by Weisskopf, may well be compared or contrasted with poems of the one later great American poet well versed in modern science: Robinson Jeffers (1887—