

in the last stages of preparation.

The two most promising sources discussed by B. Bederson are the sources based on low-energy elastic electron scattering from mercury and optically pumped helium afterglow. Although these sources are interesting, because they are direct current sources they have the disadvantage in that they are incompatible with present-day linear accelerators. They may be useful if and when cryogenic linacs are developed. However, even then their average intensity is several orders of magnitude less than that of ours (not to speak of a lower polarization factor). It appears that their usefulness outside of low-energy physics is doubtful.

RAYMOND J. KRISCIOKAITIS
CEA-Harvard University

Reference

1. Raymond J. Krisciokaitis and Wu-Yang Tsai, CEAL-1050, Harvard University, 1969), (submitted to the Physical Review).

Drafted scientist

Many readers besides myself have become somewhat accustomed to reading published accounts of the effects of the draft on graduate enrollments and availability of young professional physicists. It would seem to me that our scientific community should just as ardently concern itself with the immediate and long term consequences suffered individually by the drafted scientists themselves. Two years of military "service" should not be considered as simply an independent segment of activity, after which the individual is returned, unaffected, to pick up where he left off. For example:

Without any change whatever in my professional responsibilities as a Research Associate at a Mid-western institution, my local draft board served notice that my deferment was no longer available to me. I then accepted an offer to become a "draft-deferred" civil-service physicist for the Army Materiel Command at Aberdeen Proving Ground, Maryland. I sold our home, moved family and baggage to Aberdeen, and received a draft notice four days later.

I am now permanently assigned, along with several hundred other scientists and engineers, to the Army's Science and Engineering Program and working for an agency of the Army

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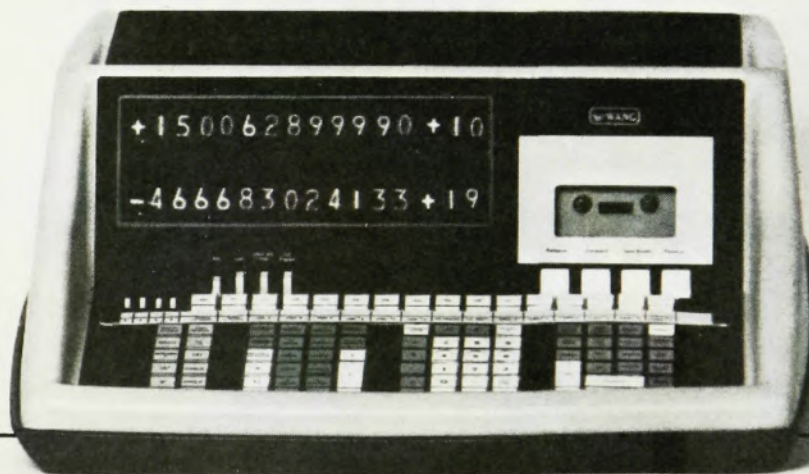
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I for one (and many, many others too, I assure you) have been delivered to the vivid realization that it's the social and political, not the natural sciences, that are manifest with the strangest mystery and nastiest problems. My greatest contribution cannot be in physics, but in the search for the true nature of that malignant mechanism of our society by which these ills are sustained.

LEE R. ALLEY
Radcliff, Ky.

Older than she looks

Walter Harrison, in his article "Electrons in Metals" (October, page 23) treats the word "phonon" as he would a beautiful woman whose age he gallantly underestimates by far.

According to Professor Harrison's estimate the fundamental work in Bloch's thesis (c. 1929) "came some 20-30 years before the word 'phonon' was coined." This would put the birth of the phonon somewhere between 1949 and 1959.

The fair lady is much older than that. In an article dated October-November, 1929, the Soviet physicist Igor Tamm (*Z. Physik* 60, 352, 1930) used the concept of "acoustical quanta," a reference that is confirmed in an article by Jacob Frenkel in *Phys. Rev.* 37, 1289, 1931. Professor Frenkel wrote this article while spending a year's leave at the University of Minnesota, where he revised the first volume of his book on wave mechanics. The preface of the book ("Wave Mechanics, Elementary Theory," Oxford, 1932) is dated July 18, 1932 at Leningrad. Section 37 (pages 266-272) is entitled "The Theory of a 'Phonon' Gas."

July 18, 1932 may not have been her birthday but the lady in question is surely crowding forty.

HUMPHREY MARIS
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