

when the US is fighting not to be drawn down into the gutter while balancing military preparations with national conscience, opinions such as those expressed by Levine and Greenberg do not endear physicists to society. I would suggest that the responsibility referred to by Greenberg lies with every member of the field. If physics in the US can exist without the necessity of designing new weapons of destruction, without professional prostitution, and without the support of "make-work" contracts, then perhaps America is not as sick as some of her symptoms indicate.

In conclusion, may I remind Greenberg that Albert Einstein was a patent clerk when some of his most profound work was performed. One does not necessarily have to have a "productive job" to be productive.

LT. CHARLES D. DECKER
Edgewood Arsenal

Recently, there have been a rash of editorials and letters to the editor about the current poor situation in the job market for physicists. This is an important matter and certainly worthy



of penetrating discussion and appropriate action, but I do not care to discuss these issues further here. I would simply like to comment on a common opinion that "physicists are trained to attain very highly specialized skills and knowledge that is only applicable to a very narrow range of tasks." To a limited extent this may be true; but are not "thinking" and "analysis" the essence of physics? I always thought so! Shouldn't a physicist be able to identify and isolate problems and then solve them with

penetrating thought and decisive action? Isn't the ability to think very generally applicable to an enormous range of problems? Isn't analytical ability very valuable in many situations? I always thought that "thinking" and "analysis" were the essence of physics and that a good physicist could handle an enormous array of tasks.

C. F. GALLO
Penfield, N.Y.

Insurance question

After several glowing pronouncements, I have just received the brochure describing the new life-insurance plan that has been given the seal of approval by the American Physical Society for its members. Out of interest I have compared this with the policy that I bought from the Institute of Electrical and Electronics Engineers, because most members of the APS could join the IEEE if they so desired. The APS premiums for \$50 000 insurance in the 35-39 age group is \$180.00; that for the IEEE is \$193.54 but the current rebate is at 20%, so that the net premium is only \$154.84. As far as I can see the conditions of insurance are identical. I hope that the APS has some explanation for this anomaly, which I feel is of interest to the general membership.

J. R. WATERS
Towson, Md.

REPLY FOR APS: As was reported to the Society's members on page 1274 of the *Bulletin* (Index issue), the Trustees of The American Physical Society Group Life Insurance Trust addressed the matter of dividends, stating that all insurance is experience rated. All plans accumulate reserves, from which dividends are paid, as the result of experience after the plan has been in existence for a period of time. However, the Trustees warned that no plan should be entertained purely from the standpoint of dividends, because these are never guaranteed.

The IEEE plan is an excellent one, and a proposal very similar to it was among the finalists when plans were considered by the Council of the Society. The IEEE plan has been in existence for a number of years and has achieved a creditable dividend record from its built-in reserve structure. The APS plan finally accepted, being a new plan, has not yet generated re-

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serves. Its acceptance by the Society's Council was predicated on the facts that not only are the initial premium rates lower than those provided under the IEEE plan, but also that other group plans issued by the APS insurer to similar nonprofit organizations' members have achieved dividends as high as 40%, as opposed to the IEEE-plan dividends of 20%. The Society would hope that, after its plan has been established, a dividend record at a much higher rate than 20% will be achieved. As to how these dividends would be applied, as was discussed by the Trustees in the *Bulletin* article, it could have the effect of providing not only a lesser net premium rate but also increased value to the now \$10 000 units.

MELVIN R. DOWNES

Trustee, APS Group Insurance Trust

Amorphous versus crystalline

I should like to clarify one of the remarks in my (1969) review of the Amorphous Semiconductor Conference published in the October 1969 issue of *PHYSICS TODAY*. At the beginning of the review, I referred to the need for structural work on all experimental samples, citing the facts that early optical measurements seemed to suggest that important details of the crystalline band structure remained applicable to the amorphous state and that recent density measurements had found densities for "amorphous" material very close to that of the bulk crystal. I suggested that this "invited the interpretation that the 'amorphous germanium' was composed of small crystallites small enough to escape detection as ordered arrays in x-ray examination, but large enough to yield the optical properties of the crystalline material." I then added "Such a possibility clouds the interpretation made from William Spicer's photoemission studies that the energy-band structures of amorphous and crystalline germanium are similar but that the disorder breaks down the k selection rules."

I wish to make clear that I have no reason to doubt the accuracy of Donovan and Spicer's photoemission measurements. Furthermore, these authors emphasize that, in their view, their results denote importantly different optical properties and band structures for crystalline and amor-

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