ing embryonic organ so that the effects of experimental environmental conditions may be studied. The medium is prepared in the following way, under sterile conditions: 5/9 ml (10 drops from a volumetric pipette) of yolk from the 72-hr incubated egg is added to 24 ml of Tyrode's solution. No further sterilization is done before using this as a culture medium.

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Comments and Communications

Sponsored Research

THE issue of January 18 contained an exchange of letters between F. A. Middlebush, president of the Association of American Universities, and Oliver Buckley, chairman of the U. S. Science Advisory Committee, concerning basic personnel policy to be adopted both by government and universities in respect to emergency research contracts.

Although I find myself in substantial agreement with all the aims outlined by Dr. Middlebush and with many of his recommendations, I cannot help but feel that he has ignored a very important aspect of the more general problem of sponsored research programs and faculty compensation. In particular, when he says that ". . . universities . . . avoid policies which make educational and basic research activities poor relations of sponsored research," I feel he is ignoring the well-known fact that, through lack of adequate funds, most universities are today placed in the unfortunate position of not being able to avoid adopting policies that make educational and basic research activities poor relations, not only to sponsored research but also to government and industrial research quite generally. Most universities are not paying adequately for faculty services nor, in the main, are they sufficiently endowed to do so.

Since there is no absolute yardstick for measuring what is an adequate salary, adequacy can only be gauged by such results as (1) the attractiveness of faculty positions to younger, qualified people planning careers, and (2) the competition offered by other employment to faculty members. Without being able to quote figures, it is my personal observation that most universities are coming off second best on both these scores, and that the present situation, if allowed to continue, will eventually result either in low faculty morale or, over a long period of time, a real shortage of topflight talent in the academic field.

Although I am not able to suggest any remedy for this situation, I do not feel that arbitrarily restricting the temporary recourse offered by higher remuneration from emergency contracts will have any result other than to increase the discontent among those so restricted and further encourage the flight from university positions. I believe, on the contrary, that if sponsored research, emergency or otherwise, can be used to increase faculty salaries through this rather trying period of inflation, and so keep good men at academic posts, then this temporary remedy should be welcomed, at least pending the end of the period or the discovery of some longer-range solution. I do not believe that such an expedient, properly administered, should result in any real disruption of our universities—certainly no more so than is already extant in the nature of the present emergency and the present existence of emergency research.

SIDNEY W. BENSON
Department of Chemistry
University of Southern California

Aerosol for Controlling Herbarium Pests

ONE of the serious problems in a herbarium is the protection of specimens from damage by insects. Experience at the U. S. National Arboretum reveals two pests: cockroaches and cigarette beetles. The usual methods of control employ bichloride of mercury, carbon bisulfide, hydrocyanic acid gas, paradichlorbenzene, or naphthalene. An innovation proposed by Hugh O'Neill (*Rhodora,* **40,** 2, [1938]) advocated baking the specimens to eliminate infestation.

Since all these techniques have various shortcomings, experiments were undertaken to find a better solution of the problem. Preliminary tests with ordinary household aerosol bombs indicated satisfactory control, but the containers were too small, as well as too expensive, for a large herbarium. Furthermore, it was thought that the petroleum base of the usual formula might eventually result in discoloration of the herbarium sheets. After consultation with R. A. Fulton and F. F. Smith, of the Bureau of Entomology and Plant Quarantine, USDA, a large, refillable bomb and a special, nonoily formula, with the following ingredients was recommended:

	Grams
Pyrethrum extract	40
Cyclohexanone	60
DDT	100
Freon	1800

Although one application is considered to be effective for a year, the treatment is given semiannually. Four hours are required for 250 herbarium cases, most of the time being consumed in opening and closing the doors. On the basis of cost, not only of materials but also of operators' time, the aerosol is unquestionably cheaper than any of the other methods. In comparison with the bichloride of mercury technique, formerly used at the National Arboretum, the