Letters

Scientific Advisers for Congress

In recent weeks letters and editorial comment have referred to the growing concern in Congress over the exponential increase in R&D supported by agencies of the Federal government. Reflecting this concern are a number of bills and resolutions introduced into the last session, all aimed at providing Congress with some means for adequately evaluating the agency R&D proposals in terms of their potential contribution to the social and economic welfare and military posture of the nation.

In meeting its requirement Congress will want to consider the background of the individuals selected as its advisers on science and technology. Most of the Federal agencies requesting R&D appropriations have, advisory to them, men of recognized standing in the scientific community. By and large they have been drawn from academic life. Before an R&D appropriation request reaches Congress it has had the blessing of such men, and there is little doubt that the research programs involved are scientifically sound and interesting. Whether the results of the research, assuming it is successful, are closely geared to the agency's mission or can be exploited for the country's welfare in the foreseeable future is something else again. This facet of R&D evaluation is usually outside the experience of men wholly dedicated to scientific achievement.

The administrators of industrial research as a class are admirably suited to the type of R&D project evaluation which Congress requires. The recognized practitioners in this field are men with strong scientific backgrounds and dedicated to the concept that scientific research is a powerful force in our social and economic life. In this respect they are true scientists. But in addition they have the advantage of an added perspective. By virtue of their positions in industry they have been forced to weigh not only the purely scientific aspect of an R&D proposal but also its chances of success and more importantly its potential contribution to the growth and profits of the company which supports its cost. They must assess its relationship to the established field of company interest. They must estimate the probable cost to bring the R&D result to market or incorporate it into the central stream of the company's operations. They must understand the ability of the company to finance, produce, and sell the result of research. All these factors they must consider in relation to the potential savings or increment in net income. It is just this type of experience which Congress requires in order to appraise the merit of federally sponsored research programs in relation to the tax dollars required to support them.

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Pigeons and Cryptococcosis

The current furor in New York City regarding the possibility that pigeons may spread human cryptococcosis is a good example of the hysteria generated by premature or ill-considered pronouncements of public officials. The numerous articles on the subject that have appeared in newspapers throughout the country and in *Time* and *Newsweek* contain many incorrect and misleading statements, and the time and effort already spent in ballyhoo borders on the ridiculous. Before all this leads to a possibly unwarranted expenditure of considerable sums on pigeon extermination, a more critical and unbiased review of the evidence should be presented to the public.

The finding of *Cryptococcus neoformans* in pigeon droppings is nothing new. As long ago as 1955, this organism (which is never referred to in scientific circles as CN, as some articles have stated) was shown to be present in the excreta of pigeons in Washington, D.C., by investigators at the National Institutes of Health. There is no question of the validity of these findings, but there is no clear-cut evidence that the incidence of human cryptococcosis in a city is significantly increased by the presence of pigeons. The birds are not infected, nor is the organism present in their digestive tracts; the pigeons do not actually spread the organism around in the environment in their droppings. The fungus cannot be isolated from fresh droppings, but only from old, dried excreta. It is known that *C. neoformans* is widely distributed in nature, and it has been isolated from a variety of natural substances, including soil, fruit juices, and milk, so that it seems most probable that the fungus gets into the pigeon droppings from the surrounding environment and grows there because the droppings furnish a rich culture medium. Thus humans are constantly exposed to the fungus whether pigeons are present or not. It is true that there have been documented outbreaks of cryptococcosis following such operations as the cleaning of a pigeon roost, and undoubtedly such an operation presents a hazard to the health of the individual engaging in it by exposing him to an unusually high concentration of the infective agent in the dust. The simple solution to this particular problem would be the use of a respirator to prevent inhalation of the dust. However, in the case of isolated infections occurring in the community, it is practically impossible to prove a relationship between the presence of pigeons and the initiation of the disease; the mere fact that the patient had previous contact with pigeons is no proof at all that they were the source of his infection.

In the case of another fungus disease of man, histoplasmosis, it has been demonstrated that the causative agent, *Histoplasma capsulatum*, can readily be isolated from chicken droppings and from soil around chicken houses, and some fatal cases have been linked with a close association with chickens. Histoplasmosis is a much greater public health problem than cryptococcosis; it is estimated that between 20 and 30 million persons have had the primary, usually mild and self-limited, respiratory form of the disease. Yet no one has seriously advocated the mass extermination of chickens.

It should also be pointed out that *C. neoformans* is not found exclusively in the excreta of pigeons, but can be