isolated from the droppings of quite a number of species of birds, including the canary.

The incidence of 20 cases per year reported in New York City is slightly less than two cases per year per million inhabitants, and is not likely to be significantly different from the incidence that might be found in almost any U.S. city, with or without pigeons.

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Speling and Hostillity

Klingelhofer claims [*Science* **142**, 1123 (1963)] that by misspelling the names of scientists students reveal "a deep-seated and general hostility toward scientists." I wonder whether, if he had asked for the names of ten professional football players, ten composers, ten novelists, ten heads of nations, and so forth, he would not have found that this deep-seated and general hostility extends far and wide.

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Ingroups and Dropouts

E. G. Boring's letter [*Science* **142**, 622 (8 Nov. 1963)] describes an important phenomenon in contemporary science [the ingroup as a social stimulus to creativity]. A neglected aspect of this phenomenon is its effects on the training of the next generation of scientists. Two main, but related, points deserve attention.

Within the present apprenticeship system students may be divided into two groups, other than those who never get their degrees at all: those who will write such Ph.D. theses and one or two journal articles as will lead them eventually to the obscurity of a safe associate professorship with tenure; and those—a minority—who will become the active researchers upon whom the progress of science depends. Perhaps most of our thinking about science and scientists concerns men and women who are or have been members of the active minority. Perhaps potential contributions of the others are being too much ignored.

A graduate student, especially after his first year, usually has a fairly well-defined field of interest and sufficient competence to appreciate current developments in that field. But his professional growth beyond this is not facilitated by the system of ingroup communication depicted by Boring. In the student, exposed only to the views of his adviser and his adviser's colleagues, attitudes and biases are developed which, while they may generate enthusiasm and apostolic zeal, tend to bias the young investigator against the work of "outgroups," if he ever gets to know their work exists. Thus he is blinded to the work of other investigators which might contribute to his own research and might lead to a broadening of his ideas and to the generation of fruitful new concepts and research. Furthermore, the present system of graduate education would tend to perpetuate these phenomena in future generations of scientists.

In view of the increasing demands made upon the scientists currently active in research, it would seem that the potential ability of those who drop out of the active scientific community although they attain the Ph.D. ought to be better utilized. While the causes of their withdrawal appear to be highly complex, it would seem that one cause might be a lack of knowledge of interesting fields of potential research.

These hypotheses are admittedly somewhat tenuous, and not to be taken as an implied criticism of the institution to which I am attached. It remains for the "empirical epistemology" advocated by B. F. Skinner [*Science* **140**, 951 (1963)] to show what validity they possess.

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Gypsy Moth Control

In a letter to *Science* [**142**, 447 (1963)] Arthur L. Babson proposed that gyplure, the synthetic form of the gypsy moth sex attractant, be broadcast by air over infested areas to confuse or frustrate male moths during the mating period in order to achieve control of the insect.

Actually, a test such as Babson described was undertaken by the Plant Pest Control Division during the summer of 1961. Gyplure, in both liquid and granular formulations, was distributed by aircraft over Rattlesnake Island, a 400-acre island with varying intensities of gypsy moth infestation located in the midst of Lake Winnepesaukee, New Hampshire. Subsequent field observations revealed that the particular gyplure used in this test had no apparent effect on the mating activity of the male moths.

It was evident from this test that a satisfactory method had not yet been developed for the mass production of gyplure. Since then, studies have been continued in an effort to overcome this problem. It is expected that in 1964 a sufficient quantity of highly attractive gyplure will be available which will permit resumption of the confusion-type test.

In addition to such tests, personnel of the Division's Methods Improvement Laboratory, Cape Cod, Massachusetts, are conducting tests with *Bacillus thuringiensis* and its related bacterial strains, with the gypsy moth polyhedral virus, with gamma radiation and chemosterilization, and with parasites and other agents, in an effort to devise safer and more practical and effective methods of controlling the gypsy moth.

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Stemming the Paper Flood

I agree with J. E. Holmes [*Science* **142**, 1252 (1963)] that restraint on the part of authors in replicating reports of their work in different publications would help to curb the frightening proliferation of scientific literature. An author who is able to republish in another language should be encouraged to do so. A report of interdisciplinary interest may advantageously appear in two or more journals if the disciplines involved have only limited contact. But it is only in exceptional circumstances such as these that replication is useful.

To whatever extent authors themselves fail to cooperate to alleviate the problem cited by Holmes, the solution lies squarely in the laps of the editors. Editors, by and large, have been awarded the authority to reject a paper whose essence has appeared elsewhere. They should be encouraged to exercise that authority unreservedly.

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