reason is that these populations have become adjusted to inbreeding. One would, of course, expect that inbreeding beginning with a group of individuals each possessing a heavy load of deleterious recessive genes would lead initially to the increased appearance of homozygous defective offspring; but if such offspring were regularly eliminated from reproduction, the net effect in the long run should be a considerable reduction in the frequency of deleterious recessive genes in the gene pool. This reduction could be regarded as biologically functional. In such a population consanguineous marriages should be less likely to produce defective offspring than they would in a large population with free mating as its normal pattern.

I believe that most of the evidence for the dangerous effects of inbreeding in humans comes from instances where a small number of individuals arbitrarily drawn from a large outbreeding population have become the ancestors of a small, new inbreeding population which is extremely isolated by geography or society. The similarity of most animal inbreeding experiments to these human instances is apparent. It would be interesting to see the results of animal experiments in which the degree and duration of inbreeding approximated more closely the breeding pattern of many primitive societies, which tended to have enough inbreeding to eliminate harmful recessive mutations and enough outbreeding to restore beneficial genes lost through genetic drift.

J. L. FISCHER
Department of Sociology and Anthropology, Tulane University New Orleans, Louisiana 70118

Population Planning

The advances made in recent years in open dissemination of birth-control information is certainly encouraging, and your frequent reports on population planning ("News and Comment," 20 Dec. 1963, p. 1554) are of great interest to us in Scandinavia. It seems to me, however, that two aspects of the problem have been overlooked by most of those involved in the issue:

1) Current advances being made in agriculture, together with research in primary productivity of ecosystems, indicate that the world can support a much larger human population than it now supports. It seems likely, therefore, that the population problem will not be recognized as a problem by many people who are unknowingly the objects of birth-control projects, because they will be able to see more palatable short-range solutions than the one suggested. In this event, their cooperation in such projects may not be forthcoming. This possibility should be interpreted as indicating not that we should decelerate birth-control programs but that we should not readily become discouraged if, as in India, we see little result from our efforts after a few years.

2) The people who will first respond to the dissemination of this type of information will almost certainly be those who are most intelligent, most cooperative, and most concerned about social problems; in other words, the genetically elite. Indeed, from a eugenic point of view it may be suggested that the people who will be reached by birth-control programs ought not to be encouraged to practice birth control. Fortunately, the genetic bases of intelligence and of moral tendencies are sufficiently complex that simple individual selection cannot be expected to yield quick eugenic responses. Nevertheless, I consider this to be the more serious of the problems and one to which considerable thought and research could well be devoted.

LORENTZ C. PEARSON
Institute of Physiological Botany, Uppsala, Sweden

Science and Poetry

Barzun's review (*Science*, 3 Jan., p. 33) of Huxley's essay, *Literature and Science*, begins as a half-hearted eulogy and ends as a diatribe. I agree with Barzun that the use of "popularized technicality" is "pretentious and false." I disagree, however, when he asserts that a poet cannot be expected to study science; he can—not to learn to use its terms, but to use its concepts, its philosophy, and the lessons it offers of human fallibility.

The poet can enrich his craft with insights from natural philosophy as readily as he can from history, psychology, or metaphysical philosophy. These insights are neither qualitatively different nor less amenable to poetic expression. Huxley himself makes ironic use of the hypothesis of the fetal ape in his novel, *After Many a Summer Dies the Swan.*

As to the hypothesis of the nightingale: The nightingale is *not* pouring out its soul in ecstasy or in love-sick anguish. It is establishing a territory, saying "Stay the hell away, unless you be female." The poet, the satirist of human foibles, could make a poem of this idea. The irony of man's eternally inflated anthropomorphism could begin here and extend even unto Deity in the hands of a poet.

Finally Barzun says, "We [scientific men?] can study birds, necessarily from the outside, till kingdom come, we shall never know *why* they sing. But as poets we know—none better—how their singing affects us." The scientist, to understand that bird fully, will not study it just as an object from the outside; he will try to get inside its skin and live, reproduce, sing, and die as it does. Then he will know that bird. And to *that* datum the poet may well listen, and react.

LAURENCE BERLOWITZ
Department of Genetics, University of California, Berkeley 4

The Muse in the Laboratory

If the "Jargon of genetics (*Science*, 17 Jan., p. 195), why not the poetry?

Sonnet[1]

Let me not to the marriage of true minds
Admit impediments. Phage is not phage
Which alters when it alteration finds,
Or bends with the researcher to be sage.
O, no! it is an ever-fixéd mist
That looks on mutants and is never shaken;
It is the star to every scientist
Whose worth's unknown, although his paper's taken.
Phage's not Time's fool, though rosy heads and tails
Within his bending sickle's compass come;
Phage alters not with his brief hours and gales,
But bears it out even to the edge of doom.
If this be error and has me cagéd,
I never writ, nor no man ever phagéd.

e. e. coli[2]

i swear
by my cesium banding
by my microdensitometry
by my homologous pairing
i am e. coli
never fear

R. R. FEINER
Department of Biology, City College, New York 31

1. With apologies to Wm. Shakespeare (see Sonnet CXVI).
2. With apologies to no one.