septic effects yields a level of significance of 0.08.

Concerning the "serious deficiency in the design of these experiments," the point should be made that the animals were randomized into cages. If their survival rate were dependent upon the cage it would have to be due to different treatments ("environment") of the cages. I have no reason to suspect that the treatment of cages was different. In any case, I have redesigned the experiment as follows: experimental animal, female mice of the same strain but obtained from Charles River Laboratories rather than Hilltop Caviary as were the previous animals; animal quarters, a sound-damped room in which the animals were kept in isolation without any daylight; light schedule, the same periods of light and darkness from a single light source under which the cages were grouped in a circle to receive equal illumination; elevation of cages, all cages on the floor to avoid any possible temperature gradient; order of cage selection, random. The results to date support the previous conclusions.

Since publication of this work another paper has been brought to my attention by one of its authors which might assist the reader in reaching a point of view concerning this work. I refer to R. E. McCafferty and H. T. Mack, *Quart. J. Exptl. Physiol.* **49**, 394 (1964). The data in Fig. 2 seem to support the concept of short-term fluctuations in metabolic activity in this same species.

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Innovation in an Eskimo Culture

In "The Anaktuvuk mask and cultural innovation" [*Science* **151**, 1337 (1966)], Atamian makes an interesting contribution to the theory of innovation in isolated cultures. His conclusion, however, appears incomplete if not actually misleading. It proposes the following hypothesis for further testing: "In nonacquisitive or noncompetitive societies, the innovations most readily adopted are those which are not symbolically related to the innovator." The circumstances he narrates in support of this proposition are as follows. The making of ceremonial masks is not part of the immediate cultural heritage of this isolated group of Eskimos (the Nunamiut), but two young hunters received much community acclaim for innovating two such masks and wearing them during a holiday festivity. On their behalf, the two masks were later sold to an interested white visitor by the chief *umialik*, the highly respected village elder. The small community thus became aware that masks could be made and sold for money, but no further masks were made or sold for 4½ years. Finally, the chief *umialik* himself made and sold some masks, and at once almost the entire community took up this activity and developed it into a profitable and substantial source of income. Why the lag in adopting this innovation? Atamian's explanation is that in Eskimo society the ordinary individual's activities are considered identical with his person, that competitive acquisition is contra-ethical in this society, and that others could not make or sell masks without violating a prohibition against taking a property (mask-making) that was part of the identities of the two young hunters. However, when it occurred to the chief *umialik* to make and sell a mask, since he symbolized the entire community rather than a single private person, the innovation could then be generally adopted as a collective, community effort.

Assuming Atamian's observations and inferences are correct, I suggest the following reformulation of the hypothesis: In nonacquisitive or noncompetitive societies, the innovations most readily adopted are those that are sanctioned or engaged in by community leaders who symbolize the entire community rather than the persons of private individuals. In this form, the hypothesis gives greater weight to the role of the chief in bringing about innovation. The issue does not appear to be met by hypothesizing that adopted innovations are those which are "not symbolically related to the innovator." Rather it appears to be related to who does the innovating. Apparently the opinion-maker prevails in the icy tundras of Alaska as well as in the concrete jungle of Madison Avenue.

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Actinomycin D and Growth Response of Chick Comb to Androgens

In the report titled "DNA-dependent synthesis of RNA is not implicated in growth response of chick comb to androgens" [*Science* **150**, 1315 (1965)], Talwar, Modi, and Rao give no indication of whether actinomycin D presented by either inunction or subcutaneous injection of the comb is an effective inhibitor of either RNA synthesis or growth in general in this organ. In all the experiments they report, actinomycin D was tested only in the presence of administered (Tables 1 and 3) or endogenous (Table 2) androgens. Without information about the effect of actinomycin D alone when presented by the same methods, no valid conclusion can be drawn about the autonomy of the androgen effect.

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Quasar Red Shifts

With reference to Hoffman's recent letter on quasar red shifts [*Science* **152**, 671 (1966)], the model I had in mind was one in which chunks of material fell into a mass center from time to time, lighting up and giving emission lines as they fell.

The Burbidges [*Astrophys. J.* **143**, 271 (1966)] report three components in the MG II (λ2798) emission line in the quasi-stellar object 3C345. The wavelengths of these components exhibited large shifts over a period of months.

An example of an extreme case of light variability is the quasi-stellar source 3C2, which increased its blue magnitude around 1.5 magnitudes between 1954 and 1963 [Sandage, Véron, and Wyndham, *Astrophys. J.* **142**, 1309 (1965)].

To put some of the unlikely explanations of quasar red shifts into the category "disproved" would be valuable, as Hoffman says. But perhaps, at this stage, we are left without even a clean-cut "unknown cause."

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