to ocean is 67 percent. This value is close to the median of 68 percent found by Harrison for both circles and triangles; the closeness of the match indicates that the median is not sensitive to the number of continents. Note that this island model has a degenerate distribution of antipodal land, with probability 1 of antipodal portion $1 - p$, which again suggests that Harrison's estimate of expected continent antipodal to ocean may be conservative if it is based on too few or too smooth continents, which would cause too large a standard deviation.

Altogether, it seems reasonable to conclude with Harrison that the observed portion of land antipodal to ocean is unlikely to have occurred by chance, even allowing for the a priori selection, especially if Runcorn's statement is correct.

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Thompson questions the use of the figure of 17.4 percent of continental area being antipodal to continent. In the report by Harrison (*1*) the figure was derived from Vening Meinesz (*2*), and it had also been used by Evison and Whittle (*3*) in their study. As to whether the figure of 17.4 percent is more correct than Runcorn's (*4*) figure of 4 percent, we have no information. The figure of 17.4 percent is supposed to be for continents out to the edge of the continental shelf, whereas the figure of 4 percent is presumably for the continental areas above sea level. We are at the moment engaged in refining the study started by Harrison. We are now using the actual shapes of the present-day continents, rather than circular or triangular continents, another factor mentioned by Thompson. This study will incidentally give a new measurement of the percentage of continental area antipodal to continent for the present-day distribution.

Finally, the problem of how many continents one should use, while being fascinating, is much more speculative, as one has to decide (i) what were the original continents, and (ii) how much one is going to allow them to overlap. At present we feel that the study should not include such speculative decisions, but we may consider them at a later date.

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Toxicity of Antibiotics in Laboratory Rodents

The deaths of a number of experimental rodents that had been treated with antibiotics impressed upon us our ignorance of the toxicity of certain of these compounds to small animals. In an attempt to arrest a bacterial infection that appeared in a group of hamsters (100 to 150 g) we administered a preparation of procaine penicillin G in dihydrostreptomycin solution. The dosage recommended in the package insert was ¼ cc for small animals (0 to 5 lb). Each hamster was therefore injected intramuscularly with ¼ ml of the preparation. Within several minutes, all the hamsters were dead. When we injected normal mice apparently free from infection to study further this fatal reaction, similar results were obtained. Mice weighing 18 to 22 g having each received either intraperitoneally or intramuscularly ⅛ ml of a different batch of the same preparation or of a preparation containing streptomycin without penicillin died within 5 to 6 minutes.

It seemed probable that the carrier or other material included in the formulation of this antibiotic was lethal. The chemical firm of J. D. Copanos and Company, Incorporated, Baltimore, Maryland, was contacted, and it kindly provided us with the following useful information on the toxicity of streptomycin and dihydrostreptomycin compounds.

Data released by the National Academy of Sciences and the National Research Council after a search of the literature show that streptomycin and dihydrostreptomycin are extremely toxic to mice, rats, and other rodents. A mouse weighing 20 g apparently has a 50 percent chance of survival if it receives a 4-mg dose of streptomycin or dihydrostreptomycin intravenously, regardless of the volume in which this amount is contained. Also, a mouse weighing 20 g has a 50 percent chance of survival if it receives 18 mg of streptomycin or dihydrostreptomycin parenterally (other than intravenously); a similar mouse has a 50 percent chance of survival if it receives 180 mg of streptomycin or dihydrostreptomycin orally. Therefore, a single dose of penicillin-dihydrostreptomycin to be administered parenterally (other than intravenously) to a 20 g mouse should not exceed 0.08 ml of the standard product; a dose to be administered orally should not exceed 0.8 ml of the standard product.

Apparently the toxicity of certain antibiotics in rodents is generally known throughout the field of chemotherapy. There are several accounts concerning the lethality of small doses of penicillin in the guinea pig, and recently Farrar, Kent, and Elliott (*1*) described similar lethal effects of bacitracin in the same rodent.

One of the antibiotic preparations that we were using is intended mainly for use by veterinarians; this preparation was not accompanied by a warning regarding dosages for small experimental animals. Consultation with several local veterinarians indicated a lack of familiarity with the toxicity of these compounds for rodents. In view of this, and as a result of our own experience, we would suggest that other investigators use caution in treating small laboratory rodents with antibiotics.

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Quasi-Stellar Objects: Possible Local Origin

Terrell (*1*) discusses the arguments favoring and contradicting the local-origin hypothesis of quasi-stellar objects and concludes that the galactic origin suggested by him (*2*) can account for all known characteristics of quasi-stellar objects.

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