Appeal for Mars Data

News has reached me of the professional difficulties being experienced by the political prisoner Kronid Lyubarsky, a Moscow astronomer who was formerly engaged in the study of Mars. The problem is that Lyubarsky, now in a Mordovian labor camp, has no opportunity to follow the progress of scientists studying Mars.

Two years ago Lyubarsky was sentenced to 5 years' confinement for participation in the circulation of a *samizdat*, and, according to his indictment, especially for keeping and reproducing copies of *A Chronicle of Current Events*, a *samizdat* information bulletin which informed its readers of human rights violations in the U.S.S.R.

Despite the difficult conditions of his confinement, and despite serious illness, Lyubarsky has maintained his interest in scientific developments related to Mars; it will be most unfortunate if his punishment for freethinking, together with other consequences, involves the partial loss of his scientific qualifications because of lack of an opportunity to follow scientific literature.

I appeal to his colleagues to send him offprints of articles on the study of Mars and photographs of Mars made by the Mariner space laboratory, in which he expressed particular interest (it is true that, in his letter about this, he expressed his suspicion that these photographs may be confiscated if sent to a political prisoner; however, let us hope for the best). His address is: Kronid Lyubarsky, P/Ya 5110/1—ZhKh, Moscow, U.S.S.R.

VALERY CHALIDZE
145 East 92 Street,
New York 10028

How Much Is Enough?

Bassler's letter on long-distance runners (12 Oct. 1973, p. 113) elicited some fascinating responses (14 Dec. 1973, p. 1082; 25 Jan., p. 256).

Like most of the respondents I, too, am a confirmed runner (or jogger. Is there a good definition of the difference?). I am 51 years old and generally run 3 to 5 miles each day, up and down hills of a country road, at a pace approximating an 8-minute mile.

My question is simple: How much is enough? I am not interested in marathon competition, and I cannot see the wisdom of attempting to run 26 miles (42.2 kilometers) just to determine whether or not I could. I enjoy running as a physical and mental catharsis, and I would much prefer to maintain my present schedule in the years ahead rather than to stretch the distance 20 or more miles only to find that the rest of my body (other than the cardiovascular system) was unable to maintain such distance with advancing age.

ROBERT G. CHENHALL
University of Arkansas Museum,
Fayetteville 72701

Hepatitis Research

I am pleased that recent advances in hepatitis research were featured in the Research News report by Thomas H. Maugh II (28 Dec. 1973, p. 1329). However, several errors in that report should be corrected.

Deinhardt and Holmes were the first to successfully transmit hepatitis A virus to marmosets, in 1965 (*1*), and they and others have demonstrated the suitability of these animals for hepatitis A studies in a number of publications. This work was essentially confirmed by others, most notably Lorenz *et al.* (*2*) in 1970. Hilleman's group laid to rest any remaining doubts about the validity of the observations, and, in a series of experiments, extended our knowledge of the nature of the hepatitis A virus and the suitability of marmosets for hepatitis A studies (*3*). Hilleman's group, of course, fully acknowledged the preceding studies of Deinhardt and Holmes and Lorenz *et al.*

The technique of immune electron microscopy, which we used to detect viruslike particles associated with hepatitis A infection, is not relatively new but, in fact, was first used by two groups in 1941 (*4*). Ignored for many years, it was given new popularity through the efforts of Almeida and Waterson (*5*) and others.

Feinstone, Kapikian, and I postulated in our report (*6*) that, on the basis of our data and those reported by Hilleman's group (who used a virus serologically related to the viruslike particles we studied), the hepatitis A virus was probably a member of the parvovirus group of viruses. Parvoviruses contain DNA, not RNA. Somewhat different biophysical characteristics were reported by Deinhardt *et al.* (*7*) for a serologically distinct virus (*8*); additional studies must be carried out to resolve these differences.

Kaplan, Greenman, and Robinson discovered and characterized the polymerase associated with the core of the Dane particle, the 43-nanometer form of hepatitis B antigen, working in Robinson's laboratory at Stanford University (*9*). This work was carried out collaboratively with Gerin and myself. Gerin prepared and characterized the starting materials used by Kaplan, and I developed and employed a solid phase radioimmunoassay for the core of the Dane particle as one means of demonstrating the association of the polymerase specifically with the core of the Dane particle.

On completion of his training, Kaplan joined Gerin's laboratory staff, and he is continuing to study various aspects of the Dane particle polymerase. He should receive appropriate credit for his important contribution.

Subsequent studies of the Dane particle polymerase have revealed that it is present in the serum of some patients acutely ill with hepatitis B (*10*). However, there is no evidence at present that tests for the polymerase would be more sensitive than serologic tests for hepatitis B antigen in screening blood donors.

ROBERT H. PURCELL
Laboratory of Infectious Diseases,
National Institute of Allergy
and Infectious Diseases,
National Institutes of Health,
Bethesda, Maryland 20014

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