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**COVER:** The gaseous bubbles that can form in the blood and tissue of surfacing scuba divers may be tiny, but they also are potentially dangerous. A new theory on the origin of such bubbles eventually may lead to revisions in the guidelines divers use to prevent their formation. See p. 186. (Illustration: John Ellis)

<b>Publisher</b>	E. G. Sherburne Jr.
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**Editorial and Business Offices**  
1719 N Street, N.W.  
Washington, D.C. 20036

**Subscription Department**  
231 West Center Street  
Marion, Ohio 43302

Subscription rate: 1 yr., \$19.50; 2 yrs., \$34.00; 3 yrs., \$47.50 (Add \$3 a year for Canada and Mexico, \$4 for all other countries.) Change of address: Four to six weeks' notice is required. Please state exactly how magazine is to be addressed. Include zip code. For new subscriptions only call: (1) 800-247-2160.

Printed in U.S.A. Second class postage paid at Washington, D.C. Title registered as trademark U.S. and Canadian Patent Offices.

Published every Saturday by SCIENCE SERVICE, Inc. 1719 N St., N.W., Washington, D.C. 20036. (202-785-2255)

# LETTERS

## Clones and patents

As the author of two articles on the patent protection of life, I read with interest the column "Patenting Life: Split Perspectives" (SN: 8/2/80, p. 71).

Donald Dunner argued at the ASM forum that higher organisms could not be "described," in the patent sense, by depositing a reproducible culture in a public collection. This is no longer true, as it is possible to obtain a "clone" of a higher organism, precisely analogous to a subculture from a microbial culture collection, by nuclear transportation techniques. The very issue of SCIENCE NEWS that carried the ASM forum piece also reported the cloning of a golden carp by Chinese scientists (page 72).

The "test case" on the patenting of a higher organism "described" by reference to a cell culture in a public depository may reach the courts within the next few years.

For a detailed discussion of this patent issue, see my forthcoming article, "The Patent System and the 'New' Biology," in the Fall issue of the RUTGERS JOURNAL OF COMPUTERS, LAW AND TECHNOLOGY.

Iver P. Cooper, Esq.  
Washington, D.C.

## Sverdlovsk revisited

The article "What Happened at Sverdlovsk?" (SN: 8/2/80, p. 73) was read by me with more than a casual curiosity.

In 1950, at the time the United Nations Forces made their first big push northward into North Korea, military intelligence officers discovered a medical laboratory in Pyongyang, the capital of North Korea. They gathered up everything that looked biological and shipped it to our laboratory in Tokyo with a request that we determine whether or not they were engaged in biological warfare.

As the officer in charge of the virus isolation section of the Department of Virus and Rickettsial Diseases of the U.S. Army 406th Medical General Laboratory in Tokyo, I was assigned the responsibility for determining this.

The first challenge was to find a Russian translator to read the labels. The technical part was then to confirm that what the labels said was actually the contents of the various vials and flasks received.

The bottom line was that we were able to determine that what was found was only vaccines, antisera and diagnostic materials that would be appropriate for the diseases of both humans and animals found in Korea.

The interesting factor that I considered more than just a coincidence was that these labels identified the source of these biological products in 1950 as the same laboratory in Sverdlovsk that is associated with this recent episode.

Thurman S. Grafton, D.V.M.  
Washington, D.C.

## Moral discord and manic depression

I love your magazine!

What I really want to talk about though is a letter from Mr. Richard Gardner concerning manic-depression (SN: 8/9/80, p. 83), and two articles concerning depression and schizophrenia (SN: 6/21/80, p. 390). The consensus between the letter and the articles addresses itself to the chemical balance of the brain as the sole source of these profound psychological problems. This type of reasoning appears to be directed more at the symptoms, rather than at the root causes. The unity of body and soul postulated by Aristotle and Aquinas offers a more sensible solution. Moral discord, more than likely, can disrupt the unity of body and soul, in such a way that schizophrenia (loss of self or soul-centeredness) and serious depression (guilt deprived of causality) become a serious, rather than a passing problem. The disruption of this unity could as easily cause increases or decreases in the chemical balance of the brain, as stress can give you a headache or a stomach ache.

Sean J. O'Reilly  
Arlington, Va.

## Volcanic footnote

There is an interesting historical reference to Mt. St. Helens's volcano in the book *Wanderings of an Artist* by Paul Kane, first published in 1859, reprinted in 1925, then in 1968 by Tuttle Co., Rutland, Vt.:

"March 26 (1847) ... I stopped to make a sketch of the volcano, Mount St. Helens's, distant, I suppose, about thirty or forty miles. ... It is of very great height and being eternally covered with snow, is seen at great distance ... I commenced my sketch ... suddenly a stream of white smoke shot up from the crater of the mountain, and hovered a short time over its summit; it then settled down like a cap. This shape it retained for about an hour and a half, and then gradually disappeared. About three years before this, the mountain was in a violent state of eruption for three or four days, and threw up burning stones and lava to an immense height which ran in burning torrents down its snow-clad sides."

Paul Cresthull  
Abingdon, Md.

## Exonerating the snail

In your report of Dr. Bueding's work with schistosomiasis (SN:8/30/80, p.136) you state that "snail larvae in contaminated water are absorbed through the skin and grow into worms. ..." The freshwater snail is in fact only guilty of being a fine host. The eggs of the trematode *Schistosoma*, found in the feces of infected humans, hatch when deposited in water and release the miracidium stage. This stage penetrates a secondary host, the snail, develops a sporocyst and gives rise to the cercaria. It is this latter stage which leaves the snail host and penetrates the human integument.

John J. Andrews  
Lebanon, N.J.

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