Letters

Mushroom Poisoning

The article "The destroying angel: A story of a search for an antidote" (News and Comment, 16 Aug., p. 600) by Barbara J. Culliton gives an interesting and informative account of the drug thioctic acid and its use in the treatment of poisoning by *Amanita phalloides* in North America. Culliton's report presents the problem of mushroom poisoning and the seriousness of poisoning by *Amanita phalloides* and related species. Each year in North America several people die from eating mushrooms of the *A. phalloides* group; in Europe the number of fatalities is greater.

In North America at least four species of *Amanita—A. bisporigera, A. phalloides, A. verna,* and *A. virosa*—have been involved in serious or fatal poisonings. Early in this century, several species of *Amanita* were sometimes classified mistakenly as *A. phalloides.* A few, including *A. brunnescens,* do not contain the deadly toxins of the *A. phalloides* group and may not even be toxic. Instead of representing *A. phalloides,* the photo on the right in Culliton's article represents *A. brunnescens.* The photo on the left is most likely *A. virosa,* once considered a variety of *A. phalloides.* Recognition of particular species of *Amanita* is difficult, and all species of this genus should be avoided.

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Ely S. Parker

Harold N. Wiren's letter (16 Aug., p. 570) incorrectly gives the name of the Indian who made such good use of his RPI (Rensselaer Polytechnic Institute) engineering training as Ely Samuel Taylor. It was Ely Samuel Parker (*1*). His Indian name noted by Wiren—Donehogawa—was no ordinary one but is a name-title of 1 of the 50 Iroquois sachemships (chieftainships of the Iroquois Confederacy), 8 of which are held by the Seneca. He was given this name in his early 20's and, as the Iroquois say, was "raised up" as a sachem chief after the Seneca who had been known as Donehogawa died. Before that, Parker's Indian name was Hasanoanda.

Ely S. Parker was a man of uncommon talent and accomplishment. While still in his teens (and before attending RPI) he was serving as an interpreter and spokesman in his people's fight to retain the reservation that had been sold without their consent and was traveling to Albany and Washington to assist in this cause. He also was serving as Lewis H. Morgan's interpreter and collaborator in Morgan's Iroquois researches—a fact duly acknowledged by Morgan in the dedication to his now classic (and still the best single volume on these Indians) *League of the Ho-de-no-sau-nee or Iroquois* (*2*). (Later, his interest in anthropology and in Indians having been rekindled at a AAAS meeting, Morgan became active in the affairs of the AAAS and was elected its president in 1880, the first anthropologist to be so honored.)

Nevertheless, this should not diminish the pride Wiren says the engineering profession and RPI should take in "their early recognition of human resources and rights." Even Harvard's 17th-century educational affirmative action program—its Indian college—did not succeed in enrolling any student who so distinguished himself as did Ely Parker (*3*).

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References and Notes

1. The most comprehensive biography of Ely S. Parker is A. C. Parker, *The Life of General Ely S. Parker* (Publication 23, Buffalo Historical Society, Buffalo, N.Y., 1919).
2. L. H. Morgan, *League of the Ho-de-no-sau-nee or Iroquois* (Sage and Brother, Rochester, N.Y., 1851).
3. S. E. Morison, *Builders of the Bay Colony* (Houghton Mifflin, Boston, 1964), p. 303. In fairness to Harvard, however, it should be noted that Caleb Cheeshateaumuck (class of 1665), the only Indian student during the early decades of Harvard's existence to complete a course of study there, died not long after receiving his bachelor's degree.

Recombinant DNA Molecules

As a working microbiologist for almost 40 years, I find it inconceivable that fear of factors inadequately known or understood should be the basis for inhibiting free investigation. Are the members of the Berg committee (Letters, 26 July, p. 303; News and Comment, 26 July, p. 332) sure that recombinants of DNA molecules do not occur in nature? Isn't it possible that, for each recombinant that is formed or will be formed, there may be an inhibitory or lethal or immune factor which will limit the potential hazard? In fact, it may well be that such inhibitory systems already exist, but can only be shown by displaying the proper recombinant.

In this day and age, when scientists should be concerned with the means for improving the conditions of life, all studies should be utilized for the potential benefit that can result. Recombinants that can fix nitrogen from the air in the roots of major crops are sorely needed throughout the world; microbial by-products to aid seed germination and plant growth and special antibiotics to discourage root rotting fungi are equally needed, as are recombinants to function as methane or other producers of fuel from our ever-increasing garbage and sewage wastes.

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"Wasted" Water

Crops use tremendous amounts of water—much more than is needed for metabolism, translocation, and cooling. Green plants seem to be forced to "waste" water in order to obtain carbon dioxide, because the same mechanism which allows carbon dioxide to enter the plant also allows water vapor to escape. Various plants have numerous ways of cutting their water losses, but always at the cost of reduction in photosynthesis.

Does this have to be true? Couldn't we cover the leaf or the stomatal openings with a material that is highly permeable to carbon dioxide but relatively impermeable to water? This might present mechanical or physiological problems, but probably not insoluble ones. However, no such differentially per-