

Patenting life: Split perspectives

The recent Supreme Court decision that allowed General Electric Co. to patent a microorganism (SN: 6/21/80, p. 387) is being applauded by some scientists and criticized by others. At the July 25 public forum on patentability of microorganisms, sponsored by the American Society for Microbiology, speakers, both those who favored and those who opposed the Court decision, argued that it would stimulate commercial development of biotechnology. Whether or not such biology-for-profit is desirable was the disagreement underlying the day of varied, heated arguments.

The scope of the Court decision was one point of contention. Jonathan King of the Massachusetts Institute of Technology says, "Having been unwilling to recognize any fundamental distinction between living and nonliving matter, the Court will not be able to enforce distinctions between higher and lower forms of life."

Patent lawyers Harold C. Wegner and Donald R. Dunner argued that other requirements of the patent law, which were not considered by the Court in the recent microorganism case, will prevent higher organisms from being patented. One of those considerations is that a patent application must describe the invention so that a skilled worker can reproduce it. For microorganisms, that requirement is satisfied if the inventor deposits a sample with a public collection so it can be distributed to other workers. But the lawyers say they cannot imagine any way that a higher organism could meet that requirement. (Plants are patentable under different rules established by special congressional acts.) Dunner says the question of patenting higher organisms remains for "another case, another time."

Another disagreement was over the likelihood that patentability of microorganisms would promote secrecy detrimental to scientific research. King says introduction of patenting will sharply inhibit free flow of scientific materials and information. Dunner retorts, "Nothing could be further from the truth." Albert P. Halluin of Exxon Research and Engineering Co. says the required sample deposit opens up free exchange, whereas if a company does not patent an organism but keeps it as a trade secret, it is not available to university research scientists.

Some scientists are already keeping information secret because they are thinking of patenting discoveries in the future, says Zsolt Harsanyi, who is preparing a report on biotechnology for the Office of Technology Assessment. He predicts that although information will be held back initially, once a patent is granted, information will be more freely disseminated than in the absence of patents.

Repeatedly erupting during the discussion of patents were the well-worn, still unresolved issues of recombinant DNA products upsetting the environment and fear that genetic engineering of humans is close at hand. (Three religious leaders have asked the President and Congress to look into dangers and ethical issues that they say may arise from the Court's ruling.) Patent lawyer Wegner emphasizes that no patent decision would give anyone permission to do anything; a patent only prohibits some companies from capitalizing on the discoveries of others. The regulation of research and development would still be left to other governmental agencies.

The political-economic issue of whether businesses should be aided with patents, rather than the special issue of whether life is an invention, influenced the opinions of the Court justices as well as of the scientists, several speakers said. Wegner points out that the four Supreme Court justices who dissented in the recent case have records of almost always voting against the patentability of inventions.

Dunner, who is president of the American Patent Law Association, says he believes that the most significant aspect of the Supreme Court decision has nothing to do with life forms. Rather, it is the broader decision that patents can be granted to inventions in new technologies, such as genetic engineering and perhaps computer software, not foreseen by Congress when the patent laws were written. □

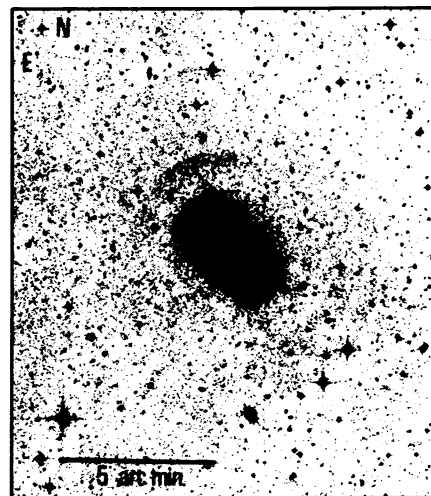
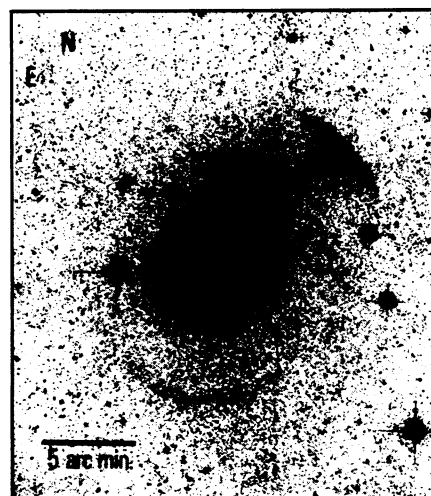
Vietnamese cosmonaut

It was a public-relations clash combining sports, space and politics. With the United States conspicuously boycotting the Moscow Olympic Games to protest Soviet actions in Afghanistan, the Soviet Union last week conspicuously launched into space its first Vietnamese cosmonaut, whom Soviet officials also conspicuously reported had previously been the first North Vietnamese fighter pilot to shoot down a U.S. B-52 bomber. (The U.S. Air Force denied the report, saying that all B-52s lost during the cited time were downed by surface-to-air missiles.)

Lifting off in the Soyuz 37 spacecraft on July 23, cosmonaut Pham Tuan accompanied veteran Soviet spaceman Viktor Gorbatko into orbit, where the pair docked their capsule with the Salyut 6 space station occupied for the last four months by cosmonauts Leonid Popov and Valery Ryumin. The visit was expected to last about a week, after which Gorbatko and Pham would return to earth aboard Soyuz 36, leaving their fresher craft docked with the station.

Salyut 6, occupied by numerous crews since it was lofted in September of 1977, was also recently refueled by the unmanned Progress 10 tanker craft, suggesting that its mission will continue. □

Elliptical galaxies: The shell game



Photos: Anglo-Australian Observatory

Two Australian astronomers have found that it pays to take a second, closer look at things—in this case, some rather prosaic, oft-observed elliptical galaxies. In a sample of twelve such galaxies exposed on especially high-contrast film, four appeared fully or partially surrounded by thin, wispy-looking shells. An understanding of their composition and origin must await future studies, particularly ones directed at the shells' spectra.

In the meantime, David F. Malin and David Carter of the Anglo-Australian Observatory have not wasted any time in speculating about the nature of their discoveries. In a recent report in *NATURE* (Vol. 285, p. 643), they argue against the ephemeral shells being merely dust that reflects or even emits light. They suggest, rather, that these surprising features are either stars formed in the intergalactic medium by a shock wave emanating from a galaxy's nucleus or stars violently ejected therefrom. The top photograph is of NGC 1344, whose main shell extends out to some 60 kiloparsecs; below it is NGC 3923, with an outer shell radius of about 180 kiloparsecs. □