NEWS & NOTES

• **UNEMPLOYMENT**: Nearly 100,000 scientists and engineers found themselves unemployed because of the cutbacks in the aerospace and related industries which began in 1968. Efforts by the Department of Labor to obtain new jobs for these highly trained but highly specialized people were "reasonably successful," according to an analysis by the General Accounting Office (GAO).

Some 50,000 professionals applied for help, of whom by March 1973 some 30,000 had been assisted in finding new jobs, the Department of Labor reports. (The GAO says this claim is somewhat overstated.) The most productive part of the reemployment program was a "skill conversion study," designed to establish the potential for adapting the skills of aerospace scientists and engineers to other occupations. Eleven suitable industries were identified, and training courses were devised. Of the 329 people who signed on for the courses, 302 had found jobs as of January 1973, most of them in the new occupations for which they had been trained.

The total cost of the Department of Labor's reemployment program was $42 million, or $1400 per person assisted.

• **RIGHT TO COPY**: The U.S. Court of Claims in Washington late last month handed down a decision which allows the National Institutes of Health (NIH) and National Library of Medicine (NLM) to continue to photocopy scientific articles for medical researchers. The decision is viewed as being limited in application and as not settling broad issues raised by photocopying of copyrighted material. The court puts ultimate responsibility for redefining the doctrine of "fair use" in the era of the photocopying machine with Congress.

In dismissing the lawsuit brought against NIH and NLM by Williams & Wilkins, a medical publisher, the judges stressed the potential harm to medical research from any prohibition of photocopying by the libraries. Williams & Wilkins have not yet decided whether they will appeal the 4 to 3 split decision.

The two sides differ on the implications of the opinion. Sources in the publishing company say that after reading the opinion "we don't feel so badly about it." Government officials are inclined to believe the opinion implies extension of the fair use doctrine to other disciplines.

of USGS. Southard says that, as a result of the Donelson group's urging, other agencies, such as the Environmental Protection Agency, have begun using the center.

He sees nothing wrong with having more such arrangements so long as they remain balanced. "It's the difference between alcoholism and having a single drink before dinner. It's a question of the right mix."

But the OMB report may involve more than using elegant new ground equipment. Some who have seen the classified version indicate that the real motive behind the proposed cooperation is for civilians to get data from the DOD's most advanced superspy satellite, a 25,000 pound spacecraft known colloquially as the Big Bird. According to reports in the aviation trade press,† Big Bird may have aboard cameras which measure ground resolution in inches; side scanning radar which can "see" through clouds, fog, and darkness with resolutions perhaps as fine as a few feet; and possibly the world's most advanced mapping camera. "All they'd have to do would be to switch Big Bird on when it flies over the United States," speculated one scientist. Speaking hypothetically, Southard said that, if such data were made available, it would make some of USGS's current operations unnecessary. Donelson, however, declined to comment on "any of those matters."

Crucial to a broad spectrum of private and public activities—from real estate development to intercontinental ballistic missiles—is the national geodetic program, in which the task force finds serious flaws. The geodetic program locates very precisely the positions of a network of points on the ground relative to the earth's crust. Up-to-date knowledge of these points is vital, since the ground stretches, rises, and falls almost continuously. As the Donelson report points out, the Great Lakes, for example, are slowly tilting southward, while the Gulf coast shorelines of Texas and Louisiana are subsiding—in places by as much as a foot per year.

A major conclusion of the Donelson report is that the civilian horizontal and vertical geodetic control networks are in terrible shape. The system of horizontal points, it concludes, "has unacceptable errors of unknown magnitude"; as for the vertical network, it says, "Only a small percentage of control established is now usable." Attempts by the National Ocean Survey (NOS) in NOAA, which has the responsibility for the network, to bring it up to date have largely added to the confusion: A major geodetic survey of the greater Washington, D.C., area was undertaken in 1969 only for the surveyors to learn that the points could not be aligned with networks for surrounding Maryland and Virginia; one network or the other was evidently wrong. The military needs to know these points to very high accuracies in order to guide missiles from one spot to another halfway across the globe. The Atomic Energy Commission needs to know them to judge the seismic safety of nuclear power plant sites.

The Donelson group's formula for remedying the problem is that NOS should take advantage of the DOD Doppler satellite tracking program—which has been successfully applied to geodetic surveying of missile ranges. These satellite results could upgrade the current U.S. network in half as much time and at reduced cost when compared to NOS's present plans.

Two key map programs from a safety standpoint—the NOAA aeronautical and nautical charting programs on which commercial ships and planes rely—get high marks from the Donelson group, primarily for having coordinated their actions adequately with related Navy and Air Force programs. But marine geophysical mapping does not come off as well. The NSF's International Decade of Ocean Exploration, the Naval Electronic Systems Command, as well as some other Navy programs, are guilty of "multiple survey coverage." The report recommends partial declassification of Navy data in this field, but at the same time recommends that more civilians be given security clearances.

One further aspect of the report is an unusually acidic section devoted to the ERTS-1 satellite program—which would fall under the new civilian agency's purview. ERTS-1, with its low-resolution cameras (410 to 1050 feet) has been hailed as the premier experiment in which satellite sensing has been used for world-wide resource inventory and environmental management. But the OMB report states that ERTS-1 "will have little usefulness for standard map production. . . . In the face of the availability of higher resolution photography, ERTS imagery . . . will be of limited value."

† Philip J. Klass, a senior aviation writer, has compiled much of what he and others have written about spy satellites in a book, *Secret Sentries in Space* (Random House, New York, 1971).