a small area of biology or medicine, it is not surprising if members know one another by other means. From the outside, it is impossible to say if ties of acquaintanceship ever influence the award of a grant; but if the peer review system works as NIH staff and study section members say it does, then such influence seems unlikely to be common. For one thing, it would be difficult to affect significantly the votes of a 15-member committee on a special-interest issue without arousing antagonism. For another, it is hard to see that members would spend up to 9 weeks a year of their own time studying applications in preparation for a bout of horse trading. Study sections are probably open to certain nonscientific considerations—such as giving a young applicant an extra chance, say, and maybe old ones too—but the "tradition" of the sections, as members describe it, is averse to making special pleas for one's friends.

Another criticism of the system is the suggestion that an applicant be able to monitor the review process, either by attending the meeting when his application is being discussed or by having the opportunity to rebut criticisms on the pink sheet before his application comes before an advisory council. NIH and NSF staff say such procedures would inhibit free discussion, turn the review into an adversary proceeding, and increase its administrative complexity.

Grantsmanship

"No amount of methodological sophistication or grantsmanship can bring to life a sterile thought," warns an NIH brochure designed for the edification of applicants. The only kinds of grantsmanship that NIH officials concede are effective are the literary virtues of clarity and succinctness. The art is more usually understood to mean dressing up an idea so as to increase its fundability. Take the case of the botanist said to have won a grant from his local American Cancer Society to study the induction of flowering; he avoided all mention of flowering in his application, describing the project solely in terms of the manipulation of nucleic acids. Other examples of grantsmanship, some successful, some not, include the following reported instances.

► An application to study the biochemical turnover of collagen in the uterus was turned down by a study section but came back the next session with a revised rationale: to study the effect of air pollution on the turnover of collagen in the uterus.

► A project to measure the *p*H of mitochondria was submitted in five separate versions, one using heart cells, one using cancer cells, and so forth, the applicant's intention being to target each version to a different institute. (What he had failed to allow for was that all five versions landed in the same study section.)

► Applicants studying a basic cellular process will propose to do so in cancer cells rather than normal cells, even when normal cells would be better scientifically.

► A scientist interested in the natural pigmentation of cells will write up his application so as to stress those aspects to melanoma cells.

"Since the initial review of a research grant application is for scientific merit only, an applicant can gain nothing by distorting his actual intentions in anticipation of the program interests of the institutes," says Eaves.* As an executive secretary, he is in a position to know, and certainly the cruder forms of grantsmanship, and those enlisted to

* G. N. Eaves, "Who reads your project-grant application to the NIH?," *Fed. Proc.* **31**, No. 1 (1972).

David, PSAC Exit Predicted

Drastic changes in the White House science advisory system, rumored for months, seemed to be imminent as this issue went to press on 2 January. Knowledgeable sources said that Presidential Science Adviser Edward E. David, Jr., would resign within days, and that the resignations of the President's Science Advisory Committee (PSAC) would also be accepted soon.

The President was said to have had a favorable opinion of David, who was allegedly offered a lower ranking role in energy affairs. However, he will take an executive post with industry instead. It is not known whether a successor will be appointed.

The departure of the well-regarded David and the disappearance of PSAC, which under the Johnson and Kennedy administrations represented the views of the highest echelons of the scientific community, cast a shadow over the Office of Science and Technology (OST). One possibility is that a reduced OST might be eventually absorbed into the much larger Office of Management and Budget.

The departure of PSAC, the preeminent science council, and of David, the most highly placed science appointee, signals, at the least, a wish by the Administration to decentralize science in government. It also means that there will no longer be a special niche for scientists in the White House.

When PSAC last met on 18 and 19 December, the members were asked to submit their resignations, apparently as a pro forma move, just as some 2000 high-ranking government officials (including David) had in November. Knowledgeable sources, however, said that the PSAC resignations will in fact be accepted. In PSAC's present form, the chances of survival seem slim indeed.

PSAC's relatively diminished role in recent months may have been due in part to a shadow science cabinet of Republican scientists who have made regular but unofficial inputs to key Presidential aides ever since Nixon was first elected in 1968. The group continues to be active according to sources close to it. However, its exact membership is not known, although it is said that these trusted advisers are among the members of the Science and Engineering Council to Support the President which surfaced just before last November's elections (*Science* 27 October).* Evidently, as the official White House science apparatus decentralizes—or diminishes—the unofficial advisers could find themselves playing a larger role.—D.S.

* Members of the Science and Engineering Council in Support of the President were: William O. Baker, Z. Dave Bonner, Robert Charpie, Clyde Cowan, Henry Eyring, Kurt Glaser, Richard Godwin, Martin Goland, Lawrence A. Goldmuntz, Patrick E. Haggerty, H. Richard Johnson, Willard F. Libby, Gordon J. F. MacDonald, William G. McMillan, Richard Morse, George Mueller, Howard K. Nason, William Nierenberg, Bernard M. Oliver, Thomas Pownall, Simon Ramo, Warren Ruderman, S. Fred Singer, Athelstan Spilhaus, Edward Teller, Howard Turner, O. G. Villard, Jr., Dean A. Watkins, Eugene Wigner.