

US industry-university deals

Monsanto link lasts well*St Louis*

ONE year after the announcement of a \$23.5 million five-year sponsorship of biological research at Washington University (WU), St Louis, by the Monsanto Company, both partners seem reasonably happy with the arrangement. The outstanding worry at the university is that Monsanto's cash may give other granting bodies an excuse to be mean.

When the scheme was first announced, there was predictable concern. Would scientists be limited in their freedom to publish? Would the direction of their research be changed to fit into the aims of industry? Would other sources of money be jeopardized? And how well would an internal peer review system cope with the distribution of such large sums of money — \$6 million in the first year and ultimately \$8.5 million on basic research plus \$15 million on "speciality projects" related to proteins and peptides that regulate cells?

The scientists who accept Monsanto money are assured that they will be free to publish, but Monsanto reserves the right to review manuscripts before they are submitted to check for patentable material. The university will hold any patents, but Monsanto will have the right to license any of them. No royalties will go to an individual researcher; instead, the money will go to the university and to the researcher's department and laboratory. Monsanto has 30 days to review a manuscript, and it can delay publication long enough to start the patent process.

Manuscripts are already going through the review process, and patent negotiations are under way for at least one finding. The review process so far has been smooth. One researcher says he submits a first draft of a paper to be published when he is about a month away from submitting it, so he does not feel that publication is delayed.

But publication will be awkward for WU researchers in another way — it will identify them as recipients of Monsanto money. Could this harm their chances of getting or keeping federal support? Many at the university are afraid that their colleagues on National Institutes of Health (NIH) review committees will feel that they no longer need NIH support because of the availability of the money from Monsanto. The fear is "an elusive thing that we think is real," according to Edward L. MacCordy, WU's associate vice-chancellor for research. The amount of NIH money coming to WU in the past year was up slightly compared with the previous year, but any effect of the Monsanto programme on NIH funding would not be expected to show up for a few years.

Other sources of funds that may be available to an applicant are supposed not to affect a peer review, but at a time when money is tight, any bias that might affect

the priority rating a researcher may get can be serious. Such bias has indeed surfaced overtly on one occasion, according to Dr David H. Kipnis, head of the internal medicine department at WU and the Monsanto project director for the university. During a site visit by an NIH review team, the head of the team held up a news article on the Monsanto agreement and asked if any money from Monsanto was involved in the project under review. Dr Kipnis protested to NIH, but no reprimand was given to the team's captain, he says. Peer reviews should focus on the quality and relevance of the research involved — not on the relative affluence of the institution, Dr Kipnis argues.

Grant applications under the Monsanto programme are reviewed by a committee of four scientists from WU and four from Monsanto. Faculty members were asked in November to submit letters of intent to file applications. Dr Kipnis says 17 or 18 letters were received, and seven or eight of those projects were supported. One more may still be approved for this year.

The WU and Monsanto committee members agreed quite closely in choosing the projects to be funded, and each of the eight on the committee gave top priority to the same eight projects. An outside review will be conducted at the end of three years to determine whether the agreement is to be renewed for another five years.

The agreement has not so far affected the direction of research at the medical school, but that may only be because most of the projects funded by Monsanto were already under way when the new programme started. For research of interest to Monsanto that is already being done at WU, the agreement offers a way for researchers to be sure that anything they find that can benefit human health will do so if it suits Monsanto.

The head of one laboratory, who wished to remain anonymous because of the problem with NIH support, said that the money from Monsanto had enabled him to support junior faculty and to buy equipment, but the company has resisted the temptation of trying to interfere in the running of his laboratory. "I do not feel pushed or directed or influenced in what I do," he said. He will be using Monsanto money to make up for a reduction in NIH support. He lost the money for a technician when his last NIH grant was renewed, a cutback which was part of the general belt-tightening at NIH. Part of his Monsanto money will go towards keeping that technician working.

While WU's scientists hope to benefit from the programme without compromising their academic integrity and freedom, Monsanto, of course, hopes to make money. The company is optimistic enough about research into factors that affect

blood clotting, regulation of the immune system and wound healing to have formed a Health Care Division in January this year.

Dr Howard A. Schneiderman, senior vice-president for research and development at Monsanto and the moving force behind the agreement with WU, says that the company is actively fostering a close relationship between its scientists and those at the medical school because this sort of cooperation is "almost necessary" for US corporations to compete in world markets. Other countries allow companies to pool their research resources in consortia, but in the United States antitrust laws make cooperation with universities the most attractive option for private industry, Dr Schneiderman said (see, however, page 4). He contends that the cooperation benefits both parties: Monsanto can accelerate the pace of research at WU, and WU scientists can give Monsanto in-depth counsel on company projects. **Karen Freeman**

Bristol explorers

PLANS for a new "interactive science centre" at Bristol seem to be advancing well. The committee responsible for the project has now appointed a full-time co-ordinator and a likely building has been found in Bristol's dockland.

The new centre, which is to be called the "Exploratory", is partly inspired by the San Francisco Exploratorium. Professor Richard Gregory of the University of Bristol, who initiated the idea, prefers not to use the word "museum" for the Exploratory, which will allow young people to repeat classic experiments in physics and learn about perception by witnessing visual illusions. The theme linking the exhibits will be "the individual as observer".

Initial costs have been met by the Nuffield Foundation. The project advisory board is now aiming to raise £1½–2 million to equip the Exploratory, which it is hoped will open in 1985. Approaches will be made to industrial companies with an interest in science and technology, and there are hopes that the Department of Industry may be persuaded to chip in.

The building is a 9-storey disused warehouse with 200,000 square feet of floor space. Only two or three floors will be used for the Exploratory; Gregory hopes to fill the others with local societies and small companies as a source of revenue. The site is being negotiated with Bristol City Council, which plans to develop the whole dockland area. A new railway link will allow easy access. Once established, the Exploratory will aim to become self-supporting, although Professor Gregory wants the admission fee to be sufficiently low that young people are not deterred. Advice and some exhibits have been given by the San Francisco Exploratorium.

Tim Beardsley