tion of the ear) and sinusitis. There is a possibility of development of an antihypertension agent, and the effect of marijuana in reducing intraocular pressure may have significance in the treatment of glaucoma. Releasing the report in Washington, NIMH director Bertram S. Brown said that "the current state of scientific and medical evidence" does not justify making the use of marijuana legal. "But," he added, "I have personally felt for a long time that the penalties for the use and possession of marijuana are much too severe and much out of keeping with knowledge about its harmfulness. I have been strongly in favor of decriminalization, but not for the total removal of penalties." Penalties similar to parking tickets might be used.

With the Government's top psychiatrist now calling for an easing of the marijuana laws, the narcs really seemed to be losing the game. But the game is not over. In fact, the end is not in sight. At least two more heavy rollers have a chance to take their best shot.

The first is the President's Commission on Marijuana and Drug Abuse. This commission was expected by many freaks to be a rubber stamp for its initiator, but it has already proved itself to be something more (SN: 1/29/72, p. 72). The commission's recommendations to Congress and the President are due on March 22, but the New York Times reported this week that the recommendation will be for the legal private use of marijuana.

The next move now belongs to President Nixon. But he may be shooting with loaded dice. He has already publicly stated that he will not listen to any recommendation of decriminalization (SN: 5/22/71, p. 349). So, when he takes his turn, the dice will probably still say, "Go to Jail." □

Pesticide committees

Part of the problem with scientific advisory groups to Federal agencies is the lack of public participation in their deliberations (SN: 7/31/71, p. 82). Whether or not the exclusion of the public results in biased decisions, a certain degree of suspicion and distrust are inevitable. New rules proposed by the Environmental Protection Agency would require pesticide advisory committees to solicit data from public interest groups. They would also allow any member of the public to submit comments on advisory committee reports before EPA makes final rulings on the recommendations of the reports. Other features of the proposed rules include allowing the public interest groups to use Federal administrative machinery to challenge EPA decisions, and the televising of pesticide hearings. □

Perspectives on cancer: Viral link elusive

If anything came out of the Gustav Stern Symposium on Perspectives in Virology, held in New York City last week, it is that scientists are far from understanding what causes human cancer. Linking a possible viral cause with a possible chemical cause seems to become more difficult instead of less so, as investigators delve deeper into the depths of cellular and molecular action. The symposium also brought home the fact that a vaccine for human cancer is not imminent—not because it is not technically feasible, but rather because Federal regulations prohibit the culturing of some "Andromeda Strain." On the whole, it was easy to come away with the gnawing feeling that cancer virus research may have been overpublicized in the past year.

To start with, cancer virologists are far from agreeing on when they might be able to say for sure that a virus is involved in human cancer, as they can now say for sure about some animal cancers. George Todaro of the National Cancer Institute says proof could be obtained within six months, but Maurice R. Hilleman of the Merck Institute for Therapeutic Research, West Point, Pa., believes it might take several years. True, as Elizabeth Priori of the M.D. Anderson Hospital in Houston points out, four of the five RNA viruses that are candidates for human tumor induction have been found within the past year. She says that evidence proving her candidate virus is definitely not an animal virus (that is, a contaminant) is shaping up nicely (SN: 9/18/71, p. 185). F. Kingsley Sanders of the Sloan-Kettering Institute in New York City cautions, though, that there are some four DNA virus candidates for causing human cancer as well. Some of these candidates have been around longer than a year. Although one of the DNA virus candidates was tracked down by Sanders, he admits that none of the current candidate viruses, RNA or DNA, may turn out to be implicated in human cancer. Todaro seconds the possibility.

And even if a virus, or viruses, were proved to be involved in human cancer, the question remains of how they might fit in with carcinogens. Carcinogens are those chemicals used to induce tumors in laboratory animals and believed, at least by carcinogen researchers, to induce tumors in humans as well. Several scientists report some interesting laboratory interaction among viruses, chemicals and cancer cells. Sarah E. Stewart of Georgetown University was the first to use a chemical to coax a virus out of a line of cancer cells, after two years work. Wallace P. Rowe of the National Institute of Allergy and Infectious Diseases treated mice cells with chemicals until the cells began to produce a cancer virus. Yet, as even the most enthusiastic cancer virologist will admit, chemical tricks performed on cells in the laboratory do not necessarily correspond to chemical-virus action in humans.

Fortunately some cancer virologists and carcinogen researchers are putting their heads together to find a real-life link between cancer viruses and carcinogens. Todaro thinks that carcinogens might transform a latent cancer virus into an active one. Thus carcinogens mesh nicely with his increasingly accepted "oncogene theory," which suggests all of us have latent virus material that could, under the right conditions, turn normal cells into cancer cells. Not all carcinogen researchers are as enthusiastic about Todaro's explanation as he is, though. When asked how cancer viruses and carcinogens might interact to cause cancer in humans, none of the other symposium scientists ventured an explanation.

As might be expected, cancer virologists are not happy about regulations that stand in the way of making a human cancer virus. Yet more than a few of them are not sure they would change the regulations. Apparently the threat Michael Crichton writes about in his novel, *The Andromeda Strain*—the chance of a virus leaking out of the laboratory and infecting the population—is always a possibility. Some safety mistakes were made in the creation of a polio virus vaccine, Todaro recalls. One possible way to circumvent cancer virus culturing dangers, of course, would be to find a nonvirulent human virus that would counter a human cancer virus. The only effective cancer vaccine to date keeps chickens from getting Marek's disease. It is made of a nonvirulent turkey virus. But even with this possible alternate approach to a cancer vaccine, Hilleman cautions: "The role of viruses in cancer and the prevention of cancer by viral vaccines is clearly an immensely complex situation which is only in its earliest stages of exploration."

Even among cancer virologists, it seems, there are now quiet rumblings that the cancer conquest is not quite falling into place as the President, Congress, the public and even scientists themselves had hoped it might. In a private conversation, one cancer virologist told SCIENCE NEWS he believes cancer virus research deserves the money, but not the publicity it now enjoys. Another young cancer virologist says he thinks cancer virus research is both overpublicized and overfunded—and this even though his income is partially derived from such funds. As might be expected, he wishes to remain anonymous. □