

call—to answer that question.

By presenting the “co’s” and “qui’s” in scrambled order, he found that the male frogs did not distinguish between “coqui” and “quico,” and responded the same way regardless of sequence. He did notice, though, that males and females responded somewhat differently to the tapes. Subsequent laboratory tests showed that auditory nerve cells in the two sexes are tuned for maximum response to different frequencies—males to the “co”

frequency and females to the “qui” frequency—thus, the sexually dimorphic (two-formed) sensory system.

This early, basic study relates to at least two larger concerns, Narins says: the questions of interpreting sequential information and of whether sounds with “biological meaning” (mating calls, aggressive warnings, etc.) are processed differently than background noise. Narins will continue looking for answers, he says, perhaps even in the rain forest. □

## Olds and Selye share psychiatry prize

It’s well known by now that electrical stimulation of the brain can be a powerfully pleasant experience. But this wasn’t even suspected in the 1950s when James Olds found that rats will work long and hard for stimulation in specific areas of the brain. Many of the causes and effects of stress are also well known. But the word “stress” wasn’t even in use as a clinical or medical term 40 years ago when Hans Selye first wrote a letter to *NATURE* about what is now known as the stress syndrome. For their far-reaching discoveries, these two men, James Olds, professor of behavioral biology at the California Institute of Technology, and Hans Selye, director of the Institute of Experimental Medicine and Surgery at the University of Montreal, will share psychiatry’s largest prize, the \$25,000 Kittay International Award.

Interestingly, both researchers sort of stumbled onto their discoveries. Olds and Peter Milner at McGill University implanted electrodes in what they thought were avoidance centers in the brains of

rats. If the animals were stimulated when they moved in a certain direction, they would react as if they had experienced a sharp pain and would thereafter avoid moving in that direction. But one day, the researchers miscalculated and placed the electrode in the wrong area. Instead of backing off, the animal moved forward in response to the shock. A “pleasure center” had been located, and in subsequent experiments rats pushed levers up to 100 times a minute for stimulation in that area.

## Science adviser bill: Agreement reached

The last hurdles in the long struggle to reinstitute a White House science advisory apparatus have apparently been overcome. A House-Senate conference committee this week filed with the Congress a compromise bill creating the Office of Science and Technology Policy (OSTP) to advise the President on technical matters. Swift passage and signing were expected.

The bill represents a victory for those who fought for a strong science adviser—with direct input to military policy-making and the budget process. The director of OSTP will be a member of the Domestic Council and a statutory adviser to the Security Council (a position equivalent to that of director of the Central Intelligence Agency). Through those forums he will have responsibility for advising the Administration on national security matters.

The director’s influence in setting budgetary priorities will be more indirect and this section of the bill reportedly involved the hardest bargaining. First, OSTP is to prepare a five-year outlook on what role science and technology can play in meeting national needs. Then, at the beginning of each budget cycle, the director will submit to each government agency a set of program options, based on the forecast, that they are to incorporate into their budgets. Finally, he will assist the Office of Management and Budget (OMB) in setting priorities among the proposed agency programs. A spokesman for Senator Kennedy’s office told *SCIENCE NEWS*, “It’s not everything we wanted but we’re pretty happy with it.”

The director and four assistant directors will be appointed by the President, but

This research has since led to an intricate mapping of drive and reward areas along the midline and floor of the brain, to a better understanding of the chemicals at work in those areas and to the beginnings of an understanding of the mechanisms of learning.

Selye’s lucky mistake came about as a result of using impure extracts in an attempt to isolate a sex hormone (SN: 5/31/75, p. 356). Instead of discovering a new sex hormone, he produced the now well known three-part stress syndrome (alarm, adaptation, exhaustion). Selye has since explained the neuroendocrine mechanisms involved and has shown how any nonspecific stress (psychological or physiological) can lead to such things as ulcers, hypertension, colitis and migraine headaches.

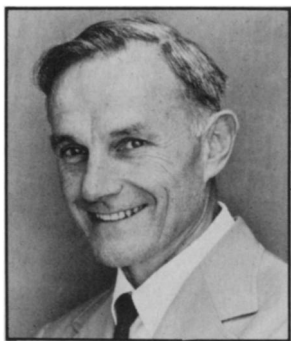
At the announcement of the award last week in New York, Olds was cited for adding “a new dimension to the understanding of human motivation,” and Selye for opening “new perspectives for the field of psychosomatic medicine.” The prize will be awarded at a ceremony in New York in October. □

will be subject to Senate confirmation—another point of contention in the past. The director’s salary, \$44,600, will be the same as that of the director of OMB. (Though the word “engineering” was left out of the title of the bill and the name of the new White House unit, the conferees inserted a paragraph saying explicitly that the engineering community would be consulted on matters of policy.)

Whether there will be a standing advisory committee of “experts” to also advise the President—as in previous times—remains uncertain. The bill creates a temporary President’s Committee on Science and Technology (PCST), consisting of 8 to 14 persons, to conduct a major survey of current science and technology. At the end of one year the committee is to submit a preliminary report to the President on its findings. After a second year, a formal report will be sent to Congress. After that, the President can either let the committee continue to conduct studies on other topics, or he can disband it.

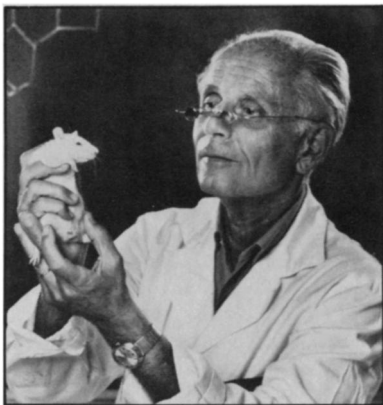
The bill also adds another bureaucratic unit to Washington’s alphabet soup: The Federal Coordinating Council for Science, Engineering and Technology, to prevent unnecessary overlap between programs of various Government agencies.

The Administration is already submitting a supplemental budget request for funds to finance OSTP and PCST for the remainder of this fiscal year. For fiscal 1977, OSTP has been authorized to spend \$3 million, and PCST has been allotted \$1 million. The President is expected to name a director of OSTP very soon, perhaps in early May. □



Olds and Selye (below) share Kittay Award.

Kittay Scientific Foundation



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