

global hypothesizers, stirred a great deal of interest among the Russians. He says the activities of single neurons have no meaning except as they contribute to larger neuronal "ensembles," which in learning become parts of larger "representational systems." He explains that his theory—which includes the idea that isolated neural activity cannot be understood outside the context of larger systems—bears the same relationship to prevailing concepts as quantum or probability theory does to Newtonian mechanics.

John said he was "delighted at the Soviet response to my work" and had not been aware until now that he and the Russians were doing work that confirmed each other's. One reason is that although Soviets follow American journals extensively, little Soviet work is translated into English. Most Americans only read articles that Soviet colleagues send them, provided they are not in Russian.

Basic scientific research in the USSR

is conducted primarily, although not exclusively, by the Soviet Academy of Sciences, which has 200 research institutes. Medical and agricultural sciences have their own institutes. Little research is university-based and few of the research scientists, at least the ones at the Institute of Psychology, do any teaching.

The two institutes represented at the meeting were the Institute of Higher Nervous Activity and Neurophysiology ("higher nervous activity" is the Pavlovian term for behavior) and the Institute of Psychology. Their activities overlap in the areas covered by the conference. Much of what is regarded as basic psychology in the United States is conducted in the Soviet Union by neurophysiologists. All basic research related to mental illness is in the Academy of Medicine.

The psychology institute was formed only 6 years ago because the time had come, according to its director, Boris Lomov, for a "synthetic" or holistic approach to psychology. The institute is di-

vided into five departments—on the philosophical problems of psychology, general psychology (including perception, memory, and mathematical psychology), social psychology (this includes, for example, field studies of cooperative group behavior), the psychology of work (industrial psychology, or how to raise labor productivity), and psychophysiology (the department represented at the conference).<sup>\*</sup> The concept of mental health is not one that plays a part in Russian research on psychology. Part of what Lomov means by a holistic approach is that neurophysiology is the bottom line, so to speak, where (it is hoped) all processes, including those in the realm of social psychology, can be illuminated.

At the conference, the matter of politics was one whose ugly head was kept below the surface for the most part. The Soviets were not interested in getting into dialectical disputes; indeed, when

<sup>\*</sup>The Russians are very interested in developmental psychology as it relates to education. This work is conducted at the Academy of Pedagogical Sciences.

## Briefing

### Academy Group Goes on Human Rights Mission

President Jorge Videla headed the list of Argentine officials who made time for the National Academy of Sciences' committee on human rights during a visit in March. The committee was also accorded high level treatment in Uruguay.

The committee was founded a year ago in response to an evident demand among the academy's membership that it add a public channel to its traditionally private means of seeking to aid oppressed scientists (*Science*, 13 May 1977). The committee has now adopted 16 scientists and scholars whose situation is "particularly grave and well documented." Five are in Argentina, three in the Soviet Union, four in Indonesia, two in Czechoslovakia, and one each in Uruguay and Mali.

The visit to Argentina and Uruguay did not produce the release of any prisoners but the academy group felt it was worthwhile. The group returned, says its trip report, "with a realistic but not necessarily optimistic view of what private groups can accomplish in advocacy for human rights." The military governments of Argentina and Uruguay are concerned

about their image and not impervious to public opinion at home and abroad. "The group concluded that most of the possibilities for NAS Committee activity are small and of limited visibility. But however small, consistent human rights actions are catalytic and cumulative."

In Uruguay the group was allowed to pay a visit to its adopted prisoner, mathematician and communist party member Jose Luis Massera. Massera, aged 63, is said to have undergone a prolonged period of torture, but the group reports only that he was "alert and interested in rejoining the mathematics community outside his country." The military judge before whom Massera is being tried received the academy group and said that their pleas on Massera's behalf "could be viewed in a positive manner" when the case is decided. A curious and unsettling event occurred while the committee was in Buenos Aires. Like many of Argentina's "desaparecidos"—the people who disappear—a prominent research hematologist named Beatriz Iparraguirre de Weinstein was abducted from her home at 3 a.m. by the usual group of armed men in unmarked cars claiming to be "from the police." The family's protests produced the usual official denial that any government forces were responsible. The family then asked scientists, including the academy committee, to take up

Iparraguirre's case with the government. Eight days later she was set free, at night, on the streets of Buenos Aires. Officials suggested that the operation was a hoax to embarrass the government, an explanation the group had difficulty in accepting because of the large numbers of people who even now disappear in the same way.

The group spoke with the local organizers of the International Cancer Congress scheduled to be held in Buenos Aires this October. Several hundred scientists in both America and Europe have said they will boycott the conference in protest against the human rights violations suffered by scientists and others in Argentina (*Science*, 10 February 1978). The academy group believes that a boycott is not the most effective tactic; a better course would be for scientists to attend the conference and use the opportunity of protesting to the government on behalf of oppressed scientists.

### Academy Makes a Late Election

Among the 60 new members elected by the National Academy of Sciences last month was Andrew V. Schally of the

anything remotely political came up, their tendency was to withdraw. Midway through the conference a small group of Irvine students requested an audience with Lomov to talk about human rights and the Jewish right to emigrate. The meeting was short and uneventful. "I didn't understand what they were talking about," said Lomov later. As for non-political matters, the Russians thought Disneyland was great, were appalled at the high prices everywhere, were eager to load up on blue jeans, and—in contrast to Americans—did not think much of *Star Wars*. "Technically very interesting," several said diplomatically. "I hate war—we should propagandize peace and love," said Asratyan.

By the end of the conference a good deal of conceptual confusion remained, but the Americans and Soviets had reportedly gained a much better idea of where they stood in relation to each other. Said one American, "The big difference seems to be that the Americans have small theories and lots of data, and

the Russians have large theories and much less data."

One thing a conference like this highlights is the importance of building into the schedule opportunities for participants to have personal interchanges. As every good conference-goer knows, the real communication occurs over the meals, at the bars, and in the Jacuzzis.

Eight days of intensive intellectual and personal contact reduced the initial skepticism of some Americans. One scientist, intimately familiar with Asratyan's work, said he came to the conference fully intending to denounce the Armenian for deviation from Pavlovian thought—an indirect reprimand for Asratyan's denouncement of fellow scientists for being non-Pavlovian in the 1950's. But when he met the man, he was "totally disarmed." Asratyan regaled him with his life history—"I was melted," says the formerly critical scientist. Now he wants to visit a Russian lab.

Another scientist, John Lacey of Fels Research Institute in Ohio, arrived feel-

ing a little cool. "They haven't got a thing to teach us so far as I'm concerned," he said. "They're not doing a thing we're not doing and they're doing some things far worse." By the end, his basic assessment had not changed but his attitude had. He found the quality of most papers "astoundingly good." Plus, said Lacey, "I've changed my negative view of meetings—that all they do is take research money." Now he is all for more détente-type things.

Richard Thompson, chairman of Irvine's psychobiology department and host of the conference, was "ecstatic." "We didn't learn any specific new facts but we got a feel for the kind of approach they have." He says that it looks as though there may be a possibility for exchanges of scientists between Irvine and the laboratories of Asratyan and of V. B. Shvyrkov of the Institute of Psychology, who was the leader of the Anokhin camp.

Some piquance was added to this conference by the fact that it came within a

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## Briefing

Veterans Administration Hospital in New Orleans. What distinguishes Schally from the 59 others so honored is that last year he won the Nobel prize.

Since 1950 some 14 American scientists have won the Nobel prize before becoming members of the Academy. The perhaps natural assumption that the Academy must have erred in overlooking them is not necessarily correct. The Academy has a painstaking election process and may in any case know its own people better than does a far away committee in Stockholm, whose record is not without the occasional goof.

An additional facet in Schally's case, however, is that he shared the Nobel prize with Roger Guillemin, of the Salk Institute, who was elected to the Academy in 1974. The two were honored by the Nobel committee for the same discovery, isolating the peptide hormones of the brain, and though each may perhaps have contributed in somewhat different ways, the nature of their achievement was essentially very similar. The question invites itself as to why the Academy didn't see fit to elect both men at the same time, and indeed whether it would have elected Schally at all if he hadn't been recognized first by the Nobel committee.

The academy's elaborate election process is administered by Home Secre-

tary David R. Goddard. Goddard says Schally's is by no means the first time in which election has come later than it should have done. "In this case it is accentuated by the fact that he got the Nobel prize first, but he should have been elected whether he had the prize or not."

Goddard says that the election machinery "is complex and tries desperately hard to be fair but is not free of error." He points out that the process is to some extent self-correcting in that people who don't get in the first year their names come up may well be elected in future years.

In Schally's case, however, the Academy evidently neglected to elect him in the four elections of 1974 through 1977. Officials decline to say if his name was already in the hopper for the 1978 elections before October 1977, when the Nobel prizes were announced.

One academy member, who believes strongly that Schally and Guillemin should have been elected at the same time, suggests that incidental differences, such as Schally's comparatively less eloquent style at the lecture podium, may have been a factor in preventing simultaneous election.

"I don't think the Academy is terribly happy about Schally's late election, but I hope he will be happy in the Academy," says Goddard.

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## World Arms Bill Now \$1 Billion a Day

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The United Nations Special Session on Disarmament, due to open at the end of May, does not have a great deal to be hopeful about. In 1977 the world spent almost one billion dollars a day on armaments, according to the most recent yearbook of the Stockholm International Peace Research Institute. NATO and Warsaw pact countries account for 70 percent, but the Third World share of military spending is steadily increasing.

The world's arsenal of nuclear weapons is now such that if even a significant fraction were used, "most of the cities in the Northern Hemisphere would be destroyed in a flash, and the bulk of their inhabitants would be killed instantly," says the Sipri doomsday book.

New missiles being installed have accuracies of a few tens of meters, enabling them to destroy other missiles in their silos. Deployment of such first-strike weapons may encourage the other side to launch its own missiles at the earliest possible warning.

The convention prohibiting environmental forms of warfare has so far been signed by 43 nations, Sipri reports.

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