Letters

Science Advisory Staffs for House and Senate

Recently a bill was introduced in Congress by Representative Abner Sibal to establish a Science Advisory Staff in the Senate and in the House of Representatives (HR 6866). The purpose of this staff would be to provide information to the members of the House and Senate who must vote on many issues requiring an evaluation of scientific and technical matters and their social, political, economic, and military implications, and to serve as a liaison between the Congress and the scientific community at large.

There are several reasons why this bill is important. Few members of Congress have had any training in science. It is very difficult and time-consuming for these men to educate themselves in science through reading, and thus few of them do so. Yet the impact of science on our culture as well as our lives is great, and representatives of the people should be informed about such matters as space, cancer, drugs, pesticides, and atomic energy, with all its implications for war and peace. Every year billions of our tax dollars are spent for research and development, with little evaluation or control of duplication. Currently, the executive branch has a near-monopoly of the scientific talent in government in the form of the scientific staffs of the various major departments and agencies. The legislative branch has to rely on these scientists, whose main task is to defend their own programs and seek the funds to support them. It appears that this lack of independent scientific advisory groups must be eliminated if the Congress is to be more than a mere rubber-stamp for the executive branch.

Therefore, I believe that the American Association for the Advancement of Science, as well as the individual scientists of this country, should take positive steps to insure the enactment of this bill into law. Hearings will be held soon by the Subcommittee on Accounts of the Committee on House Administration (Representative Samuel N. Friedel, subcommittee chairman). It is important for this subcommittee to be aware that the bill has the backing of the professional scientific societies, as well as of the individual scientists concerned. Support HR 6866!

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Channel 37

The correspondence columns of *Science* are perhaps not the best place in which to carry on a controversy about the possibility of reassigning the 608- to 614-megacycle band from television to radio astronomy. However, in your issue of 14 June [*Science* **140** 1174 (1963)], D. S. Greenberg writes, "it would not hurt if the nation's radio astronomers were to go out and fight for their cause. I am not aware that they are doing that." Perhaps other people, who do not have Greenberg's opportunities for finding out what is going on in Washington, also believe that the nation's radio astronomers have been idle. This is not the case.

Since 1960, when we at the University of Illinois initiated the proposal that channel 37 be reserved for radio astronomy, a continuous fight has been put up by American radio astronomers. This is particularly true since the formation by the National Academy of Sciences of its Sub-Committee on Radio Astronomy in 1961. The members of this subcommittee, as a body and also individually, have been instrumental in persuading the following organizations to petition the Federal Communications Commission to reserve Channel 37 for radio astronomy: National Academy of Sciences; American Astronomical Society; American Geophysical Union; National Radio Astronomy Observatory; U.S. National Committee, International Scientific Radio Union; Federation of American Scientists; American Institute of Physics; National Science Foundation; National Center for Atmospheric Research; Stanford University; Department of Terrestrial Magnetism, Carnegie Institution of Washington; University of California, Berkeley; Boeing Scientific Research Laboratories; University of Michigan; University of Alaska (Dr. Leif Owren); Graduate Research Center of the Southwest; Owens Valley Observatory; Ohio State University; University of Maryland; Hayden Planetarium, New York; University of Illinois; Yale University; and Cornell University, Center for Radiophysics and Space Research.

Admittedly, the attitude of the public toward this question can be settled conclusively only by a plebiscite. Nevertheless, the actions of the American public's elected representatives give a clue to the trend of public opinion. The following list, which I cannot claim is exhaustive, gives the names of persons and of public bodies who have, in one way or another, and at the instance of radio astronomers, urged the FCC to reserve Channel 37 for radio astronomy: Senate of the State of Illinois; City Council of Danville, Illinois; County Board of Supervisors of Vermilion County, Illinois; the Governor of Utah; Senators Paul H. Douglas, Everett M. Dirksen, and Gordon Allott; and Representatives William L. Springer, Melvin Price, George P. Miller, Hastings Keith, Lawrence J. Burton, and Sherman P. Lloyd.

The FCC has not been indifferent to these approaches. Its attempt to solve the problem by proposing a "silent zone" of 600-mile radius around the University of Illinois' radio telescope may not have found favor with the country's radio astronomers. Yet the proposal showed a clear desire on the part of the FCC to help radio astronomy. I will also quote the words of Chairman Newton F. Minow published in an FCC document dated 27 May 1963 (*FCC 63-490, 35714*), who wrote: "In my view there is considerable merit in the contention that the national interest would be best served by the deletion of Channel 37 from the Table of Assignments, in order to make that part of the spectrum available for Radio Astronomy." In the same document Commissioner (now Chairman) E. William Henry writes: "I am likewise in agreement with Chairman Minow's assertion . . . that

there is considerable merit in the pending petition to reserve Channel 37 for exclusive use in radio astronomy."

The radio astronomers of the country have been, and still are, more than willing to "go out and fight for their cause." If Greenberg can suggest other kinds of battles in which we might engage, we shall be only too glad to embark on them.

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My apologies to McVittie. I was not aware that he and his colleagues were so actively working for their cause. As for suggestions, since the cause is a just one, and laymen find radio astronomy quite exciting once it is explained to them, I think the opportunities for further missionary work in Congress are very promising. The Congress, after all, is extremely sympathetic to the promotion of science. I think it likely that instead of having just a handful of congressmen on your side, it would be possible to win the support of large numbers by simply investing a great deal of time in walks and talks through the congressional office buildings. Once again, though, my apologies, and good luck.—D.S.G.

The Littlest Astronomer

Once upon a time there were three astronomers who lived on top of a mountain. On this mountain was a large telescope for the astronomers to use. The biggest astronomer was a very intelligent theoretician, who knew *almost* all there was to know about the theories of the stars. The middle-sized astronomer was a very charming person who knew all the wonderful words needed to describe the stars. The littlest astronomer, who often listened to the other two, had learned a great deal, but he was mostly curious about what else could be found out about the stars.

One day the littlest astronomer looked out the window and said, "My, it looks as if we will have a clear night tonight. Who would like to use the telescope?"

"Not I," said the biggest astronomer, "I have to write applications in sextuplet for money to hire assistants."

"Not I," said the middle-sized astronomer, "I have to prepare my television interview for tomorrow."

"Very well," said the littlest astronomer, "I will use it myself." And he did.

The following day the littlest astronomer, who was eating his breakfast while the other two were having lunch, said "I got some interesting observations of the stars last night. Who will help me reduce them?"

"Not I," said the biggest astronomer, "I have to interview five people today for jobs as my technicians."

"Not I," said the middle-sized astronomer, "after my TV interview I am having dinner with the mayor."

"Very well," said the littlest astronomer, "I'll do it myself." And he did.

And so the years rolled by. The biggest astronomer obtained lots and lots of money for his research, and he had lots and lots of people working for him who were discovering many interesting things about the stars. The middle-sized astronomer became very famous—his picture even appeared on the cover of a weekly magazine. But the littlest astronomer just spent his time at the telescope and in his office. Because of this he was the one who answered the telephone when the dean of the near-by university called.

"Who would like to help some students with their research?" asked the littlest astronomer.

"Not I," said the biggest astronomer, "I'll hire them as my assistants, if they wish, but I haven't time to look over their own studies."

"Not I," said the middle-sized astronomer, "but I could probably recommend them for a good position when they have finished."

"Very well," said the littlest astronomer. "I will do it myself." And he did.

The students came and studied hard. They were fortunate to be able to listen and learn from all three of the astronomers who lived on the mountain, and in the process of time they left to become astronomers living on other mountains all over the world. The littlest astronomer was sorry to see them go.

After many years, when the three astronomers were very old, the president of the country in which they lived came to visit them.

"My, what a wonderful observatory you have here!" said the president. "Do you operate the great telescope every night?"

"Yes," said the three astronomers at once.

"I have seven assistants," said the biggest astronomer, "each one gets two nights a month to observe for me."

"I always pose for the pictures," said the middle-sized astronomer, "whenever any newsmen want stories of the telescope."

"Oh yes," said the president, "I have read them myself."

"I use it too," said the littlest astronomer.

"And what do you do with the measurements you make here at night?" asked the president.

"I have a staff of fifteen assistants to compute the important data we obtain. I try to be here to look over the final data, but usually I'm very busy with administrative details," said the biggest astronomer. "Then my staff of writers compiles the data and I publish it."

"Yes," said the president, "I have seen what a long list of publications you have. You must be the greatest astronomer in all the world!"

"I report these findings to the general public," said the middle-sized astronomer. "Without their support we would not be able to have this fine staff of assistants."

"I have a few students who help me," said the littlest astronomer.

"Well, well," said the president, "I would be greatly honored if you would dine with me and my cabinet. My Minister of Science would like to meet you," said the president to the biggest astronomer, and turning to the middle-sized astronomer he added, "and my Minister of Public Relations would like your autograph." Then the president, being a very cultured and gracious gentleman, turned to the littlest astronomer and said, "You can come too."

"We would love to," said the biggest and middle-sized astronomers simultaneously.

"No thank you, sir," said the littlest astronomer. "It is a clear night and there will be no one on the mountain but me. I shall use the telescope."

And the littlest astronomer took his leave of the other astronomers and the president. In the twilight the others could not see that he was smiling to himself as he walked to the telescope.

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