

At this time I would like to turn the witness chair over to Mr. Ormes of "Science," who will give you some information on how many papers are published and what is refused.

Senator NELSON. Thank you.

Would you please pull the microphone up closer?

Mr. ORMES. As you heard from Mr. Ringle, "Science" has to review 5,000 or 6,000 papers every year, and we have to get 8,000 to 10,000 reviewers for those papers.

Senator NELSON. How many of the 5,000 to 6,000 are printed annually?

Mr. ORMES. That is what I am going to mention here.

In 1975, we received a total of 5,000 manuscripts, and we printed 1,200. That is at a rate of about 25 percent of what we receive that is accepted.

The number is changed somewhat. Back in 1971, it was 6,000 manuscripts, and we published 1,400. The decline in the number published represents efforts to meet inflation and paper costs, postage costs, and other factors that affect the amount that we can handle.

Mr. SCHERAGO. Bob, would you say those figures are representative of other scientific journals?

Mr. ORMES. I do not know if they are really representative of others. This is what we have done. Nearly everybody has had financial difficulties, but I do not know specifically.

Mr. SCHERAGO. Four factors have been at work during recent history, which have created this problem.

The first of these is the tremendous increases in the number of scientific papers competing for the available pages in scientific journals.

The second is the rapidly spiraling costs of journal production. The cost for printing a page of material in the average journal has increased 30 percent in the last 2 years. Postage, too, has increased substantially. Increases in labor and salaries due to inflation are well-known facts.

Most societies have sought to fight these spiraling costs by increasing membership dues. This in turn has led to a downturn in association members, which not only keeps the net increase in society revenue small, but decreases the number of people exposed to valuable scientific information.

Reduction in scientific papers published is also an unsatisfactory solution. All things considered, attempts at cost reduction and increases in subscriptions and dues will not solve the problem.

The third factor, and by far the most critical, is the decrease, or lack of advertising revenue in peer review journals. Societies have traditionally subsidized a good portion of their publication costs with paid advertising from firms selling products used by doctors and scientists. However, these advertisers are never allowed to influence the scientific content. This is because the control of the scientific materials published is in the hands of reviewers who did not participate in the revenue from advertising. True peer review journals have steadfastly refused to let advertisers influence their scientific content. This policy had led advertisers to seek other means of communicating with their customers which would allow them greater input.