Sanger, now 40 and a member of the Royal Society, began his study of proteins after having received his doctorate at Cambridge in 1944. That year he and a few associates at the university started to work out the sequence of every amino acid link in the amino acid chains that make up the insulin molecule. It was thought that there must be hundreds of thousands of possible permutations.

By the end of 1952 Sanger had assembled two complete amino acid chains. Two years later he worked out how the chains themselves were interlocked by chemical "bridges" or cross-members composed of sulfur atoms. The results were published in 1954, and biochemists had at last a complete picture of insulin, the first protein to be described in the history of biochemistry.

When interviewed in Cambridge, Sanger commented:

"At the moment, my work is useful mainly in analyzing other proteins. But, since proteins are the most important substances in the human body, understanding them is, in the long run, a step forward in fighting diseases, which attack the body."

Medicine and Physiology

On 30 October the Royal Caroline Medico-Chirurgical Institute announced that three United States geneticists will receive the Nobel Prize in medicine and physiology for their work on problems of heredity: George W. Beadle, 55, chairman of the Division of Biological Sciences at California Institute of Technology and former president of the AAAS (1955); Edward L. Tatum, 48, member and professor at the Rockefeller Institute for Medical Research and a member of the AAAS Editorial Board; and Joshua Lederberg, 33, chairman of the department of medical genetics at the University of Wisconsin. All three men are members of the National Academy of Sciences. At present, Beadle is Eastman visiting professor at Oxford University. Lederberg is to become head of the new department of genetics at the Stanford University School of Medicine in January.

Beadle and Tatum will share half of the $41,420 prize "for their discovery that genes act by regulating specific chemical processes." The other half of the prize goes to Lederberg "for his discoveries concerning genetic recombination and the organization of the genetic material of bacteria."

Seventeen years ago at Stanford University, Beadle and Tatum opened up the whole field of biochemical genetics when they embarked on a research program using *Neurospora crassa,* a bread mold, instead of fruit flies or corn, the traditional tools of geneticists. They proposed to prove the tenet that all biochemical and enzymatic reactions are controlled by genes. This they did by using x-rays, ultraviolet light, or chemicals to produce mutations in *Neurospora.* When offspring of irradiated molds were found to be deficient in one or another aspect of the nutrition process, the two investigators observed that these mutations were passed on to successive generations of nonirradiated *Neurospora.* This method of creating mutations can be used to produce organisms with almost any desired biochemical characteristics, a finding that brought new life and activity to the young science of genetics.

At the age of 21, when he was a student of Tatum's at Yale University, Lederberg became codiscoverer with Tatum of the phenomenon of sexual recombination in the bacterium *Escherichia coli.* This discovery was a direct result of the previous work, and was made possible by use of biochemical mutants in bacteria that corresponded in all respects to the mutant strains of bread molds obtained by Beadle and Tatum in 1941. Using sexual recombination as an experimental tool in subsequent analysis of *Escherichia coli,* Lederberg found clear-cut evidence that the cells of bacteria are much like those of animals and plants, and probably have nuclei containing genelike units in chromosome-like groupings, too. Further work along these lines led to his codiscovery with a student, N. D. Zinder (now with the Rockefeller Institute in New York), of "transduction," or the transfer—via an infecting virus—of genetic characteristics from the host bacterial cell to another cell.

All of the Nobel awards in science, each amounting to $41,420, will be conferred at a dinner to be held in Stockholm on 10 December, the anniversary of Alfred Nobel's death in 1896.

News Censorship during the Moscow IGY Meeting

Soviet censorship greeted American reporters who covered the International Geophysical Year meeting in Moscow in late July and early August. National Association of Science Writers members present were myself and Alton Blakeslee of the Associated Press. On our arrival in Moscow, the resident Western correspondents told us how we must file stories in triplicate at the bleak Central Telegraphic Agency in central Moscow. Later, we would get one copy back showing a story had cleared—if it had cleared—and showing any deletions if the censor had made any. The "later" might be 15 minutes or 2 hours or 6 hours or 24 hours later, or never.

On the third day of the IGY meeting, Friday, 1 August, we wrote a story saying that the chief of observations in Japan's weather bureau had told the meeting that almost all the big radioactivity peaks in Japan had come from Soviet and not American bomb tests. The censors censored it.

The AP got the story out by a subterfuge I won't describe here. But, as of the next day, not a word had been officially passed or cabled.

Reporters representing AP, UPI, the *New York Times,* Reuters, the *Minneapolis Tribune,* and the Chicago Daily News Syndicate (I was representing the last two) gave protest letters to Sydney Chapman, president of CSAGI, the international special committee directing the IGY. On the following night, the censors refused to pass a part of a *New York Times* story reporting that American scientists were saying that disagreement with the Soviets over Soviet failure to release certain rocket and satellite information would be one of the issues of the meeting. This event was added to the protest.

To quote from just one of our protest letters:

"I hope the CSAGI bureau will see fit to protest, and agree that in areas where the public of our nations is concerned, there can be no freedom of inquiry or scientific reporting unless there is also freedom to communicate with the public. It would seem intolerable to hold great scientific meetings in a place where their results cannot be communicated to the people who must support science in our countries."

The protest obviously embarrassed Soviet IGY scientists, when it was relayed to the CSAGI bureau, as promised to us, by Chapman. Chapman himself answered us on 5 August by saying: "It is the view of the CSAGI bureau that the press should be able to transmit to the public the views of the participating IGY committees on purely scientific matters."

To my view at least, the right of the press should also include much broader free interpretation and comment, but we were still indebted to Chapman's prompt and forthright action. Within a few days of his reply, candid interpretive accounts of the touchiest issues—principally, intense dispute over the matter of release of satellite information—were in fact passing without trouble. On the night of 5 August, even some of the Japanese radiation cables began coming back passed, though my own story on the subject never was sent, to my knowledge.

The censorship did not end completely. Reporters wrote that an American scientist had found that the carrier-rocket of Russia's first Sputnik fell over Communist territory, disproving Khrushchev's contention last December that the

United States had it and would not return it. One correspondent chose to say that Russian scientists had been "proved wrong," and this phrase was censored.

The whole affair served to remind us very sharply that the regular correspondents in Moscow never know whether their stories will be cabled or not, even after they have been held several hours. The correspondents never talk to or even see the censors. They often wait up all night to see what has happened to their copy on important stories. They fight a constant battle to get the honest news out.

The Soviet Union is bidding now to make Moscow a center of world scientific meetings. Scientists as well as science reporters who consider going there should know of these facts, so they may guard against press censorship, which, as surely as scientific censorship, can choke free inquiry and communication.

VICTOR COHN, *science reporter*
Minneapolis Tribune
Minneapolis, Minn.

Darwin Celebration

The University of Chicago will sponsor a celebration of the hundredth anniversary of the publication of Darwin's *Origin of Species,* 22–29 November 1959. With aid from the National Science Foundation, and with the cooperation of the Chicago Natural History Museum and of national scientific societies, leading figures in the sciences from all over Europe and America will be brought together.

The core of the celebration will be five panel discussions (on consecutive days) including 50 participant authors and their invited papers; the papers will later be published in a volume. In addition to the 50 scientists whose papers will lay the foundation for discussions, about 500 to 1000 visitors are expected to attend. The celebration will include some social and ceremonial occasions, including a special convocation on Thanksgiving Day.

News Briefs

The establishment of the American Board of Medical Hypnosis has been announced. The board will serve as a certifying body for physicians employing medical hypnosis as part of their professional work. The president of the new organization is Jerome M. Schneck of New York City, and the secretary-treasurer is Bernard B. Raginsky of Montreal, Canada.

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The new central office building for the American Psychiatric Association was dedicated on 31 October. Secretary of Health, Education and Welfare Arthur S. Fleming gave the principal address at the ceremony. The new $300,000 headquarters is a converted town house that has a staff of 35, headed by the medical director, Mathew Ross, senior staff employee of the association who took office in September this year. He succeeded Daniel Blain.

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The American Board of Nutrition will hold the next examinations for certification as a specialist in human nutrition during the week of 12–18 April 1959, in Atlantic City, N.J. Examination application forms, which must be received by *1 March,* may be obtained from the secretary, Robert E. Shank, Department of Preventive Medicine, Washington University School of Medicine, Euclid and Kingshighway, St. Louis.

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The second United Nations Regional Cartographic Conference for Asia and the Far East took place in Tokyo, 20 October–1 November. The opening ceremony was attended by some 200 people, including 70 participants from 27 countries. The conference elected Chuji Thuboi of Japan as president, General Dura of Turkey as first vice president, and Mr. Rasaratanam of Ceylon as second vice president.

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Harvard University's Museum of Comparative Zoology has just received a 5-ton shipment of blocks of fossil reptiles collected at Ischigualasto, a site in Argentina near the border between the provinces of San Juan and La Rioja. The shipment represents the results of the first exploration of the remote region in the Argentine, a brightly colored desert valley which promises to be one of the world's richest fossil collecting areas.

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The National Science Foundation has announced the award of grants totaling over $7.6 million to 32 colleges and universities in support of Academic-Year Institutes designed to help high school science and mathematics teachers improve their subject-matter knowledge. An estimated 1500 high school science and mathematics teachers will be enrolled in the institutes in the 1959–60 academic year. The Academic-Year Institutes Program is being expanded by the foundation because of its success in helping science and mathematics teachers improve the quality of their teaching.

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A classified directory of research opportunities available to college and university scientists has been issued by the Oak Ridge Institute of Nuclear Studies. The directory is a brochure that describes the Oak Ridge Research Participation Program, a program that enables university scientists to carry out research in atomic-energy installations for periods of 3 months to 1 year. Copies of the brochure are available on request from the University Relations Division, Oak Ridge Institute of Nuclear Studies, P. O. Box 117, Oak Ridge, Tenn.

Grants, Fellowships, and Awards

Sex. The Division of Medical Sciences of the National Academy of Sciences–National Research Council is accepting applications for grants-in-aid of research for consideration by the Committee for Research in Problems of Sex. The funds for support of this program are provided by the Rockefeller Foundation and the Ford Foundation. The committee is concerned primarily with encouraging research on the mechanisms underlying sexual behavior, with special emphasis on the higher mammals and man. Proposals involving endocrinological, neurological, psychological, anthropological, phylogenetic, and genetic studies directed toward this objective are therefore invited. Requests that deal with the physiology of reproduction or with related biological and biochemical fields should be addressed to the committee only if they give promise of shedding light upon behavioral mechanisms.

Preliminary inquiries should be addressed to Room 411, Division of Medical Sciences, National Academy of Sciences–National Research Council, 2101 Constitution Ave., NW, Washington 25, D.C. Completed applications for the fiscal year 1959–60 should be postmarked on or before *15 January 1959.*

Statistics. The department of statistics at the University of Chicago is offering awards for study in statistics by persons whose primary field is not statistics but one of the physical, biological, or social sciences to which statistics can be applied. The awards, which are supported by the Rockefeller Foundation, range from $3600 to $5000 on the basis of an 11-month residence. The closing date for application for the academic year 1959–60 is *16 February 1959.*

Traveling teachers. The National Science Foundation has announced that it will expand its program of Traveling Science Demonstration Lectures, previously administered solely by the Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tenn., to include a few regional centers throughout the country. Proposals are invited from educational institutions and nonprofit organizations concerned with scientific education.

Appropriate individuals will be selected by the regional centers to receive three summer months of intensive training designed to prepare teachers to give lecture-demonstrations in physics, chemistry, biology, or mathematics in a number of high schools during the 1959–60 school year. Emphasis is on fundamental