Fourth International Cancer Research Congress:

St. Louis, September 2—7, 1947

E. V. Cowdry, *President*[1]

PRESIDENT TRUMAN, IN HIS OPENING message to the Congress, said:

This meeting has large significance to the United States and to the world at large from every point of view—social, economic, political, and spiritual. No further argument is needed to support such a statement than the fact that in the United States alone 180,000 persons die annually of cancer. The last war showed more clearly than ever before the value of coordinated research. How fruitful, therefore, will be this assembly from the whole world of scholars interested in the solution of the cancer problem.

In a later telegram the President advised the Congress as follows:

It is now possible for the United States to take an important forward step toward greater international cooperation in the field of medical and biological research. On behalf of the people of the United States I am pleased to announce to the Fourth International Cancer Research Congress that progress in the production of radioisotopes by the United States Atomic Energy Commission now permits limited distribution to qualified research workers in other countries of radioisotopes principally for medical and biological research. I know that the representatives of the United States attending the cancer research congress share my hope that the open, impartial and truly international character of medical research will carry over into the realm of other problems of world concern. The sharing by and among all nations of both the means and the results of cancer research will reduce the loss of life and human suffering from disease throughout the world.

Thus, the Cancer Research Congress commenced very auspiciously. The suggestion by the President of the United States, that the members were pioneers in international cooperation and that success by them in the field of cancer research might lead the way to international teamwork in other matters, was stimulating. The announcement by him that henceforth all nations can share in the opportunities for investigation provided by radioactive isotopes was a long step in the right direction. Indeed, it answered a question uppermost in their minds.

The attendance from abroad was larger than we had dared expect at a time when travel was difficult and the whole world was busy trying to recover from the last war. The fact that this attendance amounted to 139 is due to help received from many sources.

The chairman of the Governmental Liaison Committee, L. A. Scheele, worked long, faithfully, and wisely in Washington. We have him to thank especially for the effective cooperation of the U. S. Department of State. Had it not been for the courtesy of the Department in transmitting invitations to all nations of the world, except Japan, Germany, and Spain, the attendance of official delegates from abroad would have been nil.

Early realization of the fact that, in addition to these official delegates, many other leaders in cancer research would like to attend the Congress, but could not because of financial obstacles, led to prompt action. S. Bayne-Jones, chairman of the Finance Committee, raised money not only for routine expenses of the Congress but also, in many instances, for travel. The most substantial donors were: the American Cancer Society and its agent, the Growth Committee of the National Research Council, the U. S. Public Health Service through the National Advisory Cancer Council, the Jane Coffin Childs Memorial Fund, Eli Lilly & Company, the Anna Fuller Fund, and Barnard Free Skin & Cancer Hospital.

The Danforth and Donner Foundations made no payments directly to the Congress but did financially assist representatives from abroad to attend. Mr. Edwin S. Jones of the First National in St. Louis, served as treasurer of the Congress.

Represented at the Congress were: Argentina, Australia, Belgium, Bolivia, Brazil, Canada, Chile, China, Colombia, Czechoslovakia, Denmark, Egypt, El Salvador, France, Great Britain, Greece, India, Iran, Iraq, Italy, Korea, Luxembourg, Mexico, Netherlands, Nicaragua, Norway, Palestine, Panama, Peru, Philippines, Portugal, Siam, Sweden, Switzerland, Tunisia, Turkey, Union of South Africa, United States, Uruguay, and Venezuela.

Representatives from Austria, Cuba, Ecuador, Paraguay, Java, Hungary, and Russia, though named and expected, did not attend. Ethiopia, Lebanon, Dominican Republic, Eire, Finland, Saudi Arabia and Yemen, Afghanistan, Liberia, Costa Rica, Honduras, Poland, New Zealand, and Bulgaria indicated active interest in international cooperation in cancer research.

This means that 60 nations answered the call issued through the State Department. The U. S. attendance was excellent, making a total registered membership of 816.

Unification was provided by holding all the meetings on the first and second floors of one hotel, The Jefferson. In this way many people, often talking different languages but having the common ambition of discovering new facts about cancer, helped each other in ways too numerous to mention. The meetings did not drag and become monoto-

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nous because there was so much from which to choose. Shields Warren, chairman of the Program Committee, ably seconded by the vice-chairman, Sidney Farber, supplied a program of great variety. A general session of comprehensive and fairly long papers and five smaller special sessions of shorter reports on cancer were in simultaneous operation. Also attracting many was a splendid series of exhibits arranged by G. W. Larimore, chairman of exhibits. These demonstrations of new techniques, methods, and results were of great help to those planning their own experiments, and the showings of well-chosen motion pictures, also provided by Dr. Larimore, gave inspiration and relaxation. Important also were the informal discussions on easy chairs in the corridors situated close to both the exhibits and the scientific meetings.

The atmosphere of friendly give and take was carried into the late afternoons and evenings by the enterprise and devoted service of the Local Arrangements Committee, under A. N. Arneson and Lt. Col. E. C. Sibley, which operated in five subcommittees: *Delegates and Foreign Investigators:* chairman, James F. Nolan; *Foreign Consulates:* chairman, Alphonse McMahon; *Women's Entertainment:* chairman, Mrs. Wendell G. Scott, and co-chairman, Mrs. Frank R. Bradley; *Entertainment:* chairman, Wendell G. Scott; *Local Transportation:* chairman, Col. A. M. Libasci.

In addition, there was a large Reception Committee of 38 St. Louis doctors. Much entertainment in private homes gave evidence of hospitality. The bringing together of large groups in the evenings was accomplished by three dinners in the hotel, a fine supper given by St. Louis University, and a special performance of the Little Symphony, offered by Washington University.

Those attending will not be surprised that it took almost exactly a year to make preparations for the Congress. First, W. U. Gardner, president of the American Association for Cancer Research, consulted the National Research Council and received the permission of the U. S. Department of State. He then invited the Union International Contre le Cancer, through its president, Justin Godart, to join the Association in sponsoring the Congress. All winter and spring the organization of the Congress was developed by these Committees: *Local Arrangements:* chairman, A. N. Arneson, and vice-chairman, Lt. Col. E. C. Sibley; *Finance:* chairman, S. Bayne-Jones; *Exhibits:* chairman, G. W. Larimore; *Governmental Liaison:* chairman, L. H. Scheele; *Publicity:* chairman, M. G. Seelig; *Program:* chairman, Shields Warren, and vice-chairman, Sidney Farber.

From August 4 to September 27 Frank McGurk, loaned to us by the National American Red Cross, served most effectively as full-time secretary general. It would have been greatly to the advantage of the Congress if he could have come earlier and stayed longer.

It will be asked what precisely were the objectives of the Congress beyond meeting old friends, making new ones, and the resulting cross-fertilization of ideas. There were two purposes: first, to review the recent advances that have been made in cancer on a world-wide front, and, second, to lay the basis for international cooperation so that research can be carried on more effectively. With the encouragement of the President of the United States, it was felt more keenly than before that the eyes of the thinking world were on this international gathering. Because of this fact, the action of the American Cancer Society in delegating a member of its staff, Pat McGrady, a skilled publicity man, to cooperate with Dr. Seelig, publicity chairman, was especially opportune. The press worked loyally under Mr. McGrady. The greatest care was necessary to give the facts without conveying unwarranted hope of the effectiveness of the new and possibly improved methods of treatment reported, because no one knew better than Dr. Seelig how tragically cancer sufferers grasp at straws.

This review of recent advances and up-to-date techniques was timely. The world is in a period of reconstruction. Universities, cancer hospitals, and clinics in some countries have been completely wrecked, while in others work has been carried on with skeleton staffs sadly restricted by lack of equipment and supplies. It is essential that the new buildings to be erected be well planned, that the investigators work with full knowledge of what already has been done, that they have the most effective equipment and adequate supplies of materials such as the radioactive isotopes liberated by President Truman. In other words, to have organized cancer research poorly armed and informed would have been a terrible handicap, especially since it is so difficult, having embarked on a program, to change it or abandon it and start all over again. Our plan is to make the transactions of the Congress available to all by publication in *Acta* under the editorship of J. Maisin, of the University of Louvain in Belgium, but it is now evident that the balance in the treasury of the Congress will be altogether insufficient for this purpose and additional money will have to be secured.

Even briefly to review the results of hundreds of reports to the Congress is not feasible here. Abstracts of many of them are contained in the printed program, itself a volume of 168 pages. Cancer being a condition that can be manifested by a wide variety of cells of the body from before birth to the point of death in more or less remote response to the action of hundreds of influences not only in man but in thousands of animal species, the ground covered by it is greater than by any other disease. No two individuals would give the same appraisal of the advances reported. We are frequently asked, "Well! What really new was reported for the first time at the Congress?" The questioner knows that he may get cancer himself, or he may already have it, and he definitely has in mind prevention, diagnosis, and treatment.

With respect to prevention, cancer hazards are par-

ticularly great in certain industries, and detailed recommendations were made for protection. Individual predisposition to cancer was stressed in several papers. Some progress was reported in recognition of the kind of individual most likely to get cancer and of the properties of precancerous conditions that serve as alarm signals. Knowledge of the causes of cancer is to some extent helpful in prevention, and much was said about cancer production. Viruses were considered in detail, but no evidence was given that human cancer is infectious. The nature and operation of the so-called milk factor was elucidated.

The importance of discovering some chemical or microbiological test by which cancer can be detected wherever it exists in the body and earlier than by the methods now in use is universally admitted. Tests based on the examination of the blood and urine of patients suspected of cancer were reported. Further work alone will show their value. The well-known technique of examination of vaginal smears in the diagnosis of uterine cancer was discussed and its wider use indicated. Success in the diagnosis of some lung cancers by examination of cells in the sputum was described. Reports on transplantation technique seemed to strengthen its diagnostic value.

Improvements in treatment of cancer are, of course, most urgently needed. Present hope rests chiefly on early surgical excision of cancer before it has spread through the body. Distinguished radiologists and surgeons reviewed technical procedures and results and outlined future possibilities. Since the logical basis for experiments leading to the discovery of new and different methods of treatment is knowledge of how cancer cells differ from the normal cells from which they spring, these properties were investigated by a host of techniques, and encouraging progress was reported. Many and sometimes favorable attempts to inhibit cancer growth by hormone administrations were discussed. The beneficial effect of tissue extracts on some cancers was claimed. Numerous papers on chemotherapy showed beyond question the value of integrated research on a fairly large scale and the advisability of testing substances wholesale on the chance that some of them may prove effective. Preparations called KR and ACS from Russia, FA from Italy, and H11 from England were exhaustively investigated, but no claim was made that they are the answer to the great question of how to cure advanced cancer. Reports on the new pain-killing drugs, metopon and amidone, were well received.

The Congress showed that chemical and physical techniques are being brought to bear on cancer as never before. We are in a far more advantageous position than at the last Congress in Atlantic City in 1939. Incidentally, the second and first Congresses were held in Brussels in 1936 and in Madrid in 1933, likewise under the Union Internationale Contre le Cancer. At this, the fourth Congress, the importance of the electron microscope, of polarization optical methods, of ultracentrifugation, and of other techniques was manifest, and the new betatron was described. Most significant, perhaps, were the papers and exhibits on radioactive isotopes which served to orient investigators planning to use them in their own researches.

Some, however, had the sobering thought that after the Congress would come a flood of letters from cancer sufferers, told that their cases were hopeless, pleading for information about new cures reported at the Congress, and that each and every one of these inquiries probably would have to be answered by saying that there is still no cure for advanced cancer and that they should trust their physicians.

Yet a feeling of optimism pervaded the meetings. One great scientist marveled at the mass of facts already known about cancer. He remarked that the scientific sessions in some of the rooms were quite beyond him and truly stated that no single human being is capable of an intelligent appreciation of this enormous mass of knowledge. He mentioned the idea that someone gifted with the power of putting two and two together might propose a real cure; that is to say, if we look back some 20 years hence, we may wonder at our dumbness. But he was quick to call for more experiments.

When questioned, some said that atomic energy had been harnessed and that it was only a question of time before advanced cancer, now considered hopeless, would be cured. But these were reminded that it may well be more difficult to solve the cancer problem than to find out how to make an atomic bomb. Others were impressed by the fact that cancer sometimes grows quickly, sometimes slowly, and in extremely rare cases disappears without treatment. They thought that an understanding of the reasons for these phenomena would light the way to purposeful control.

The majority were simply encouraged by the teamwork being developed in cancer research. The old guerrilla warfare against cancer is being replaced by organized research. Yet it was admitted that a good beginning has hardly been made. No actual poll was taken but, rather careful estimates indicated that, of those presenting the results of researches at the Congress, the vast majority were working on cancer only in the time that they could spare in competition with other duties. As long as the offensive against cancer is so predominately a spare-time occupation it will be a half-hearted affair.

Another serious handicap, the magnitude of which was brought out by sample questioning, is that few indeed of the investigators have enough financial backing to feel able to carry on for as long as five years; most of them could count on support for only one year. With such insecurity, the peace of mind necessary for productive research is sadly lacking, and there is a tendency to concentrate on get-the-results-quickly projects, neglecting important long-term ones.

All at the Congress were in favor of international cooperation, though some questioned its feasibility. To lay a satisfactory basis for this in less than a week called for careful thought and prompt action.

Obviously, the 139 representatives from abroad together with the 8 official U. S. delegates constituted a group too large to make much progress, but it was evident that their advice was valuable and should be followed in this, the supremely important task of the Congress, emphasized indeed in the President's message.

These national representatives therefore held an organization meeting on September 2. After free discussion it was decided to assign the duty of making specific recommendations to a smaller group consisting of but one representative of each nation, who would receive counsel and advice from his compatriots. This group, designated the Executive Committee of National Representatives, held meetings on September 3, 4, and 5. In order to spread the responsibility internationally, a representative of the United States, Great Britain, and Mexico acted as chairman, respectively, on these dates. The recommendations prepared were presented on September 6 in English, French, and Spanish to the larger body of National Representatives for approval.

The essential feature of these recommendations was the establishment of a small but representative *International Cancer Research Commission.* It was proposed that the Commission consist of but one member from each of the nations at the Congress and that these have equal voting power, quite irrespective of the size of the nation represented. In order regularly to draw new personnel into the Commission, it was proposed that no member shall serve for more than three years. To decentralize the Commission, it was proposed that the annual meetings never be held consecutively in the same country.

Since the need was felt to build within the framework of an existing international organization in the field of cancer, it was proposed that the Commission be constituted as an almost autonomous division of the Union Internationale Contre le Cancer. Fortunately, members of the Executive Committee of the Union were present at the Congress and formally accepted the Commission on this basis, which was specified in detail. It is expected that the Union will be closely related to the World Health Organization. It was agreed that cancer research is to be interpreted to include all efforts to advance our knowledge of cancer by clinical, experimental, or other means.

It was recommended that single representatives of still other nations be welcome in this Commission, and that a five-member Executive Committee of the Commission be appointed and later be expanded to not more than seven members. To make this Committee representative, it was proposed that it consist of one member from Latin America, one from Asia, one from the United States, and two from Europe, supplemented by alternates to serve in case any of the members was unable to do so. The actual membership suggested was:

I. Millan (Mexico), chairman; alternate, F. Leborgne (Uruguay)

E. V. Cowdry (United States); alternate, W. U. Gardner (United States)

V. R. Khanolkar (India); alternate, Tu-Shan Yung (China)

J. H. Maisin (Belgium); alternate, A. Lacassagne (France)

A. Haddow (England); alternate, J. Engelbreth-Holm (Denmark)

It was understood that Haddow would represent the whole British Empire.

These recommendations, finally presented to the entire Congress on September 6, were enthusiastically and unanimously approved. Consequently, the single representatives from each of the 40 nations at the Congress constituting the charter members of the International Cancer Research Commission, consider that they have a mandate from the Fourth International Cancer Research Congress to proceed along these lines. It is their hope, and we believe that of mankind everywhere, that this Commission soon will be expanded to include the remainder of the 60 nations which responded so cordially to the invitation transmitted by the U. S. Department of State, but were unable actually to take part in the Congress. In addition, and as quickly as possible, the cooperation on the same basis of Japan, Germany, and Spain is urgently needed.

The appointment of new members from these other entering nations as well as replacement of charter members upon their retirement in three years will invigorate the Commission. It was clear, however, that if the majority are replaced after three years by newcomers unfamiliar with the work of the Commission, orderly development and continuity of work will be in jeopardy. For this reason it was decided to suggest to the nations involved that the replacing members attend the last annual meeting of these retiring charter members for experience, but without power to vote.

Not the least benefit derived from the International Cancer Research Commission will flow from the act of choosing members as national representatives in an increasing number of countries all over the world. Everywhere it will honor the individual, dignify cancer research, and strengthen public support for such research. The feeling was repeatedly voiced that the person chosen should be representative of the leading cancer research organization in each country, and it is not unlikely that this will be a factor in the creation of such organizations in nations not already so equipped.

Dr. Millan and his Executive Committee have the immediate responsibility of consolidating the Commission and of securing the financial life blood without which it cannot function. Wise publicity is called for. They will also make a detailed study of objectives and methods of operation and submit this at the next annual meeting of

the Commission in 1948 at a time and place soon to be announced. However, it can be said at once that the Commission does not seek in any fashion to control cancer research anywhere. That would be unwarranted intrusion. Rather, I believe it to be the intention of the charter members of the Commission to give advice and some financial assistance when requested and to promote cooperation in cancer research between the nations that welcome it.

No nation, large or small, has a monopoly of wisdom. All can participate in the world problem of discovering more effective means to prevent, diagnose, and cure cancer. Progress in cancer research springs from quality, not quantity. The research front in cancer is so extensive that many small but promising research projects costing but little can be selected as well as large ones. Both are demanded and the sooner the better, for there is urgency. There is also something to be said in favor of holding the annual meetings of the International Cancer Research Commission not where there are comparatively large groups of active investigators but in other countries which thereby may be encouraged more vigorously to organize their resources against cancer. We have great expectations that national frontiers will give way in the pooling of such resources. The vision includes some neighboring countries, unable financially alone to establish and maintain the well-equipped cancer research institutes required for certain lines of inquiry, joining forces for the common good.

Looking back to the feverishly active days of the Congress, it is clear that the *International Cancer Research Commission* developed smoothly because it was something everybody earnestly wanted and because the wisdom of the policy of decentralization, adopted at the very beginning, was self-evident. This policy found expression in equal representation by all nations, in the headquarters of the Commission being temporary and dependent upon the location of the chairman of the Executive Committee of the Commission, and in the decision never to hold annual meetings of the Commission consecutively in the same country. It is safe to say that the charter members of the Commission share with President Truman the hope that international cooperation thus made effective will spread to other problems of world concern.

The 139 representatives of 40 nations returning home from the Fourth International Cancer Research Congress are ambassadors of good will and of hope for all nations. They look forward with pleasure to the Fifth Cancer Congress. No decision was reached as to where this will be held; but, as a decentralization measure, it will certainly not be in the United States. Recommendations as to location will be made to the Union Internationale Contre le Cancer by the International Commission.

Obituary

S. F. Light

1886–1947

The tragic death by drowning of Prof. S. F. Light on June 21, 1947, represents a severe loss to biology. Prof. Light had for 22 years been a member of the Department of Zoology at the University of California, Berkeley.

S. F. Light was born into a Presbyterian minister's family in Elm Mills, Kansas. After graduation from Park College, Missouri, in 1908, he spent two years teaching in government schools in Japan, two in the Manila High School, Philippine Islands, and two as instructor in Zoology at the University of the Philippines, taking a Master's degree from that institution in 1913. Except for one year (1914–15) at Princeton University as Procter Fellow, his service at the University of the Philippines as assistant, associate, full professor, and department head was continuous until 1922. From 1922 through 1924 he served as professor and chairman of the Department of Zoology at the newly organized University of Amoy, China. During these years he published a series of careful systematic studies on Philippine coelenterates, especially alcyonarians and scyphozoans, and on oriental termites. Some of these grew out of expeditions of which one, to Puerto Galero, Mindoro, in 1912, is of special interest, because this site has since been chosen, largely by his students, for the marine station of the University of the Philippines. From Amoy, in addition to material for later termite studies, came accounts of the astonishing amphioxus fisheries of that region. A great body of less tangible results of his contact with tropical faunas enriched his teaching and thinking in later years.

In 1924 Light returned to the States, intending to work for the doctorate and return to the Orient. His work on termites attracted the attention of the late C. A. Kofoid, who persuaded him to remain at the University of California after taking the Ph.D. in 1926 on termite flagellates. At this time his interest in biological aspects as distinct from the purely taxonomic first made its appearance in published work. Besides describing several new