

# POLIOMYELITIS

*Papers and Discussions Presented at the  
Third International Poliomyelitis Conference*



# POLIOMYELITIS

*Papers and Discussions Presented at the  
Third International Poliomyelitis Conference*

Compiled and Edited for the  
INTERNATIONAL POLIOMYELITIS CONGRESS



Philadelphia

Montreal

J. B. LIPPINCOTT COMPANY

COPYRIGHT © 1955  
BY THE INTERNATIONAL POLIOMYELITIS CONFERENCE

---

This book is fully protected by copyright and no part of it may be reproduced without the written permission of the publisher

*Editorial Note*

*The material included in this volume comprises a record of the Third International Poliomyelitis Congress as well as a report of the opening session, the banquet and the address of His Holiness, Pope Pius XII. All of the original manuscripts have been included in toto; the discussions, the inaugural addresses, the banquet addresses and the address of His Holiness have been condensed because of lack of space. All of the material, delivered in several languages and much of it transcribed by recording, has been edited in the interest of brevity and accuracy*

Library of Congress Catalog Card Number: 49-9616

PRINTED IN THE UNITED STATES OF AMERICA

### *Dedication*

When the proceedings of the Second International Poliomyelitis Conference were published, I predicted confidently that "*Together* we will conquer poliomyelitis." As the proceedings of the Third International Poliomyelitis Conference are published, we seem on the very threshold of our goal. Again, therefore, this book is dedicated to Franklin Delano Roosevelt whose leadership, inspiration and human kindness stimulated so many other Americans to strive, to investigate and to give as partners in a great humanitarian endeavor.

*Basil O'Connor*

---

## *Preface*

---

The First International Poliomyelitis Conference was held in 1948 in New York City. The Second Conference was in Copenhagen in 1951, and the Third Conference took place in Rome in 1954. So great has been the interest in the published proceedings of the first two conferences that it was decided to make the proceedings of the Third Conference available in similar form.

In the conferences, leading medical organizations, research institutes and universities throughout the world participated. Today, copies of the first two volumes are available in practically all the medical libraries of the world and thousands of copies have been circulated to individuals and to research institutions.

The proceedings of the Third Conference cover most of the aspects of the study and care of poliomyelitis, but give new emphasis also to the social aspects of the disease and to its prevention. A new feature of the proceedings of the Third Conference is the inclusion of the banquet addresses and the special address prepared by His Holiness, Pope Pius XII, especially for the delegates to the Third International Poliomyelitis Conference.

The editor and the publisher again extend their thanks to all the contributors and the educational institutions which collaborated in making possible publication of the proceedings.



Chairman, Committee on Publications  
Vice-President, International Poliomyelitis Congress

---

## *The International Poliomyelitis Congress*

---

### OFFICERS

*President*, BASIL O'CONNOR

*Vice-Presidents*, MORRIS FISHBEIN, M.D.

RUSTIN McINTOSH, M.D.

THOMAS M. RIVERS, M.D.

*Secretary*, WILLIAM FRANK SNYDER

*Treasurer*, HENRY P. REINEKE

*Executive Secretary*, STANLEY E. HENWOOD

### MEMBERS

Dr. RENATO BOMFIM, Brazil

Mr. RICHARD A. BRENNAN, U.S.A.

Mr. FRANCIS BROWN, U.S.A.

Mr. JOHN S. BURKE, U.S.A.

Prof. GIUSEPPE CARONIA, Italy

Dr. SVEND CLEMMESSEN, Denmark

Mr. VINCENT CULLEN, U.S.A.

Prof. ROBERT DEBRÉ, France

Dr. MORRIS FISHBEIN, U.S.A.

Mr. JAMES J. KERRIGAN, U.S.A.

Mr. ARTHUR KIRSTEIN, U.S.A.

Dr. CARL KLING, Sweden

Dr. DAVID P. C. LLOYD, U.S.A.

Dr. RUSTIN McINTOSH, U.S.A.

Prof. CARLO MARINO-ZUCO, Italy

Mr. CLARENCE G. MICHALIS, U.S.A.

Mr. JEREMIAH MILBANK, U.S.A.

Dr. FRANK R. OBER, U.S.A.

Mr. BASIL O'CONNOR, U.S.A.

Dr. CARLOS E. OTTOLENGHI, Argentina

Mr. LOUIS H. PINK, U.S.A.

Mr. L. RAGOCZY, Denmark

Dr. THOMAS M. RIVERS, U.S.A.

Dr. HERNAN ROMERO, Chile

Prof. H. J. SEDDON, England

Mr. WILLIAM FRANK SNYDER, U.S.A.

Dr. NORMAN H. TOPPING, U.S.A.

Mr. JUAN T. TRIPPE, U.S.A.

Dr. HART E. VAN RIPER, U.S.A.

---

# *The Third International Poliomyelitis Conference* at the Orthopedic Clinic of the University of Rome

---

## SPONSORS

The Government of Italy  
The National Foundation for Infantile Paralysis  
(U.S.A.)  
The Orthopedic Clinic of the University of Rome  
(Italy)

## CO-OPERATING UNIVERSITIES

The University of Bari  
The University of Bologna  
The University of Cagliari  
The University of Catania  
The University of Firenze  
The University of Genova  
The University of Messina  
The University of Milano  
The University of Modena  
The University of Napoli  
The University of Padova  
The University of Palermo  
The University of Parma  
The University of Pavia  
The University of Perugia  
The University of Pisa  
The University of Rome  
The University of Sassari  
The University of Siena  
The University of Torino

## CO-OPERATING SOCIETIES

The Italian Society of Hygiene  
The Italian Society of International Medicine  
The Italian Society of Microbiology  
The Italian Society of Neurology  
The Italian Society of Orthopedics and Traumatology  
The Italian Society of Pediatrics  
The Italian Society of Surgery  
The National Board of Tourism (Italy)  
The National Foundation for Maternity and Child Care (Italy)

The National Institute of Accident Insurance  
(Italy)  
The National Institute for Social Security (Italy)

## COUNTRIES REPRESENTED

### ARGENTINA

Dr. Bismarck Lucero\*  
Prof. José Valls

### AUSTRALIA

Dr. Peter L. Colville (Victoria)\*  
Dr. A. R. Southwood (South)\*  
Mr. N. F. Stanley

### AUSTRIA

Dr. Hans Bertha  
Dr. Gerald Grinschl\*  
Dr. Karl Kundratitz  
Dr. Viktor Niederwiser  
Dr. Erika Richling

### BELGIUM

Prof. Willy Esser  
Mme G. Hollmann  
Prof. Hooft  
Dr. Léon Laruelle  
Prof. J. Michez  
Prof. Nihoul  
Dr. Pierre Recht\*  
Dr. L. Schwarz  
Prof. P. Van Gehuchten

### BRAZIL

Prof. Achilles Araujo  
Dr. Oswaldo P. Campos\*  
Prof. Joaquim Moreira da Fonseca\*

### CHILE

Dr. Hernan Romero\*

### COLOMBIA

Dr. Heriberto Gomez Jimenez

### COSTA RICA

Dr. J. Olrich-Bolmarich

\*The Official Delegate who presented a report at the Third International Poliomyelitis Conference.

## CUBA

Dr. Jose Ignacio Tarafa

## CZECHOSLOVAKIA

Dr. Helena Libiková  
 Prof. Jaroslav Procházka  
 Dr. Wilhelm Skövránek\*  
 Dr. Karel Zacek

## DENMARK

Dr. Arne Berthelsen  
 Dr. E. Juel Henningsen\*  
 Dr. J. Ørskov  
 Mr. L. Ragoczy

## DOMINICAN REPUBLIC

Dr. José Antonio Cino Poloney

## FINLAND

Dr. K. E. Kallio  
 Dr. Erkki Klemola  
 Dr. Lars-Olof Nyberg  
 Dr. Nils Oker-Blom  
 Dr. Kari Penttinen\*  
 Mrs. Saima Tawast-Rancken  
 Mrs. Terttu Wallenius

## FRANCE

Dr. Chigot  
 Prof. R. Debré  
 Dr. A. Grossiard  
 Dr. P. Lépine  
 Prof. D. Leroy  
 Dr. S. Thieffry  
 Dr. Madeleine Viguié\*

## GREECE

Prof. Costantino Choremis  
 Dr. Jean Michail\*

## GUATEMALA

Dr. C. Monzon Malice

## HUNGARY

Prof. Yozsef Csapo  
 Prof. George Ivánovics\*

## ICELAND

Dr. Björn Sigurdsson

## INDIA (HYDERABAD)

Dr. U. P. Pargaonkar

## IRAQ

Dr. J. A. Kasim Al-Ibadi

## IRELAND

Dr. H. O'Flanagan\*

## ITALY

Prof. Saladino Cramarossa

## JAPAN

Dr. Masami Kitaoka\*

## LEBANON

Dr. Hans Zellweger\*

## MONACO

Dr. E. Boeri

## NETHERLANDS

Dr. G. D. Hemmes\*

## NEW ZEALAND

Prof. J. E. Caughey\*

## NORWAY

Asst. Prof. I. Alvik  
 Dr. E. A. Johanning  
 Prof. G. H. Monrad-Krohn\*  
 Prof. S. Refsum

## POLAND

Prof. Feliks Przesmycki\*

## PORTUGAL

Dr. Manuel R. Pinto\*

## SWEDEN

Dr. Rolf Bergman\*

## SWITZERLAND

Prof. Guido Fanconi\*

## SYRIA

Dr. Zéki Djabi\*

## UNION OF SOUTH AFRICA

Dr. James H. S. Gear\*

## UNION OF SOVIET SOCIALIST REPUBLICS

Prof. Konstantine Vinokourov\*

## UNITED KINGDOM

Dr. W. H. Bradley\*  
 Dr. A. T. Elder (Northern Ireland)  
 Dr. H. J. Seddon\*  
 Dr. I. N. Sutherland (Scotland)

## URUGUAY

Dr. Perez de Castillo\*

## VENEZUELA

Prof. Humberto Arroyo Parejo\*  
 Prof. Pablo Izaguirre\*

## YUGOSLAVIA

Dr. Svetislav Stoianovitch\*

\* The Official Delegate who presented a report at the Third International Poliomyelitis Conference.



## ENDORISING ORGANIZATIONS AND UNIVERSITIES

- American Academy of Orthopaedic Surgeons  
Dr. Walter P. Blount  
Dr. Harold P. Boyd
- American Association for the Advancement of Science  
Dr. Rustin McIntosh  
Dr. Thomas M. Rivers
- American Association of Pathologists and Bacteriologists  
Dr. Thomas M. Rivers  
Dr. Jerome Syvertson
- American College of Physicians  
Dr. Chester Keefer  
Dr. John R. Paul
- American College of Surgeons  
Dr. Paul C. Colonna  
Dr. Frank R. Ober
- American Congress of Physical Medicine and Rehabilitation  
Dr. Sedgwick Mead  
Dr. Jessie Wright
- American Medical Association  
Dr. Paul C. Colonna  
Dr. Frank R. Ober
- American Neurological Association  
Dr. Armando Ferraro  
Dr. Maximilian Silbermann
- American Orthopaedic Association  
Dr. Paul C. Colonna
- American Physical Therapy Association  
Miss Lucy Blair  
Miss Miriam J. Jacobs
- American Public Health Association  
Dr. William McD. Hammon  
Dr. Hugo Muench
- Association des Paralysés de France  
Dr. Guy Dingemans
- City of Helsinki  
Prof. Nils Oker-Blom
- Council for International Organizations of Medical Sciences  
Dr. J. Delchef
- Department of Health, Education and Welfare, Public Health Service, U.S.A.  
Dr. Karl Habel  
Dr. Morris Schaeffer
- Department of the Navy, Bureau of Medicine and Navy, U.S.A.  
Commander G. R. Saraniero
- Fédération Belge des Kinésistes, Bruxelles  
Mme Jenny Soehnchen
- Giornale di Malattie Infettive Parassitarie  
Colonnello Francesco
- Instituto de medicina tropical de Lisboa  
Prof. Manuel R. Pinto
- Israel Foundation for Infantile Paralysis  
Dr. A. Fried
- Istituto Provinciale di Protezione ed Assistenza dell'Infanzia di Milano  
Prof. Pietro Brusa  
Prof. Cesare Torricelli
- Istituto Superiore di Sanità  
Prof. Italo Archetti
- Landsforeningen mot Poliomyelitt, Oslo  
Dr. Johan Bakken  
Dr. Knut Koppang  
Dr. Paul E. Paulsen
- League of Red Cross Societies  
Dr. Z. S. Hantchef
- Medizinische Fakultät Universität, Wien  
Prof. Karl Kundratitz
- Morrison Center for Rehabilitation, San Francisco, U.S.A.  
Miss Ruth Cook
- National Council for the Care of Cripples in South Africa  
Dr. Emilia Krause
- National Society for Crippled Children, U.S.A.  
Dr. William T. Sanger
- Pretoria University and South African National Poliomyelitis Research Foundation and City of Pretoria  
Dr. H. Nelson
- Riksföreningen mot Barnförlamning (Polio) Sweden
- Schweizerische Vereinigung der Gelähmten und Invaliden  
Dr. Guy Dingemans
- Scottish Council for the Care of Spastics and Allied Conditions  
Mr. G. A. Pollock
- Sophis Minde Hospital, Oslo  
Dr. Johanning
- South East Regional Hospital Board, Plymouth, Devon, England  
Dr. D. F. Johnstone
- Swedish Central Committee for the Care of Cripples  
Prof. Sophus von Rosen
- University of Aarhus  
Prof. C. J. Munch-Petersen

University of Athens  
 Prof. K. Choremis  
 University of Brazil and National Faculty of  
 Medicine of Rio de Janeiro  
 Prof. J. Moreira da Fonseca  
 University of Bristol  
 Dr. A. N. McFarlan  
 University of Cambridge  
 Dr. D. Cameron  
 University of Rostock  
 Dr. Anders  
 World Confederation for Physical Therapy  
 Mme S. Coleridge  
 M. J. Dupuis Deltor

The Director-General of the Medical Services of  
 the High Commission of Hygiene and  
 Health  
 The President of the Italian and International  
 Welfare Council  
 The President of the Italian Red Cross  
 The President of the Italian Foundation for  
 Maternity and Child Care  
 The Surgeon General of the Army  
 The Surgeon General of the Navy  
 The Surgeon General of the Air  
 The President of the Pontifical Relief Foundation  
 Prof. Giuseppe Caronia  
 Prof. Raffaele Bastianelli  
 Prof. Augusto Giovanardi

## OFFICERS OF THE CONFERENCE

### *Honorary Presidents*

Basil O'Connor (U.S.A.)  
 L. Ragozy (Denmark)  
 Prof. Luigi Spolverini (Italy)

### *General Chairman*

Prof. Carlo Marino-Zuco (Italy)

### *Executive Secretary*

Stanley E. Henwood (U.S.A.)

### *Committee of Honor*

The President of the Senate  
 The President of the Parliament  
 The Premier  
 The Minister of Foreign Affairs  
 The Minister of Internal Affairs  
 The Minister of the Treasury  
 The Minister of Education  
 The Minister of Industry and Commerce  
 The Minister of Transportation  
 The Minister of Labor and Social Security  
 The High Commissioner of Hygiene and Public  
 Health  
 The Prefect of Rome  
 The President of the National Academy of Lincei  
 The President of the National Council of Re-  
 search  
 The President of the Pontifical Academy of  
 Science  
 The Mayor of Rome  
 The President of the University of Rome  
 The President of the High Council of Health  
 The President of the Italian Society for the Prog-  
 ress of Science  
 The President of the Academy of Forty  
 The Director-General of the Superior Institute  
 of Health

## COMMITTEES OF THE CONFERENCE

### SCIENTIFIC PROGRAM COMMITTEE

John R. Paul, M.D., *Chairman*  
 Morris Fishbein, M.D.  
 Prof. Gino Frontali  
 Prof. Mario Gozzano  
 Rustin McIntosh, M.D.  
 Prof. Carlo Marino-Zuco  
 Thomas M. Rivers, M.D.  
 Hart E. Van Riper, M.D.

### *Scientific Program Sub-Committee*

Paul C. Colonna, M.D. (U.S.A.)  
 Prof. Dante De Blasi (Italy)  
 Prof. Francesco Delitala (Italy)  
 Prof. Gennaro Fiori (Italy)  
 Thomas Francis, Jr., M.D. (U.S.A.)  
 Prof. Carlo Marino-Zuco (Italy)  
 James L. Wilson, M.D. (U.S.A.)  
 Jessie Wright, M.D. (U.S.A.)

### PROGRAM EXECUTIVE COMMITTEE

Prof. Carlo Marino-Zuco, *Chairman*  
 Prof. G. Alberto Canaperia  
 Prof. Giuseppe Caronia  
 Prof. Saladino Cramarossa  
 Prof. Gino Frontali  
 Prof. Mario Gozzano  
 Prof. Domenico Marotta  
 Prof. Vittorio Puntoni  
 Prof. Luigi Spolverini

SCIENTIFIC EXHIBITS COMMITTEE

Prof. Vincenzo Floris  
Prof. Calogero Garaci  
Prof. Orazio Malaguzzi-Valeri  
Prof. Filippo Mulé  
Dr. Niccolò Pancino  
Prof. Vincenzo Pietrogrande

EDUCATIONAL AND TECHNICAL  
EXHIBITS COMMITTEE

Prof. Calogero Garaci  
Prof. Giorgio Maggioni  
Dr. Vincenzo Marino  
Prof. Vincenzo Pietrogrande  
Prof. Attilio Rampoldi

Prof. Filippo Rocchi  
Dr. Salvatore Siggia

ENTERTAINMENT COMMITTEE

Dr. Vincenzo Marino  
Prof. Giorgio Monticelli  
Prof. Vincenzo Pietrogrande  
Prof. Attilio Rampoldi

RECEPTION COMMITTEE

Dr. Enrico Battisti  
Comm. Ruggero Benini  
Prof. Attilio Rampoldi  
Dr. Leonida Tucci

---

## *Scientific Demonstrations*

---

### List of Participants

Lucy Blair, M.A.

Consultant, Professional Services Division, The American Physical Therapy Association, New York, New York

Horace L. Hodes, M.D.

Director, Department of Pediatrics, The Mount Sinai Hospital, New York, New York

Miriam Jacobs

Instructor in Physical Therapy, D. T. Watson School of Physiatrics, Leetsdale, Pennsylvania

Kenneth S. Landauer, M.D.

Assistant Medical Director, The National Foundation for Infantile Paralysis, New York, New York

Sedgwick Mead, M.D.

Medical Director, California Rehabilitation Center, Vallejo, California

Barbara J. Williams, R.N.

Consultant, Nursing Advisory Service for Orthopedics and Poliomyelitis of the National League for Nursing, New York, New York

James L. Wilson, M.D.

Professor of Pediatrics and Communicable Diseases, University of Michigan, Ann Arbor, Michigan

Jessie Wright, M.D.

Medical Director, D. T. Watson School of Physiatrics, Leetsdale, Pennsylvania

Muriel E. Zimmerman, O.T.R.

Supervisor, Special Services Division, Institute of Physical Medicine and Rehabilitation, New York University, Bellevue Medical Center, New York, New York

### *Technical Exhibits*

A.G.A.—Italaga

American Hospital Supply Co.

Bang & Olufsen—Skanditalia

Birmingham Regional Hospital Board

D.I.S.A.

Draegerwerk—G. Broglio

J. H. Emerson Co.

Garthur Ltd.

Gesellschaft für Elektrotherapie—Brardinelli

K.I.F.A.—I.R.I.S.

Le Matériel Médicale et Sanitaire

Medical Supply Limited

M.I.V.A.B.

J. J. Monaghan Respirator Co.

Philips (electron microscope)

Polimed

R.C.A. (electron microscope)

S.A.O.O.R.

Schuster & Schmidt

Technicon

Warren E. Collins

---

## *The Official Inaugural Ceremony at the Campidoglio (City Hall)*

---

The Third International Poliomyelitis Conference was inaugurated with solemn ceremony at the Campidoglio in the halls of the Promoteka, and was presided over by Minister of Education Martino, a physician and professor of human physiology at the University of Messina.

He was accompanied by the vice-president, Dr. Morris Fishbein; the general chairman of the Conference, Prof. Carlo Marino-Zuco; the deputy-mayor of Rome, Avv. Andreoli, and the three honorary presidents of the Conference: Mr. Basil O'Connor, Prof. Luigi Spolverini and Mr. L. Ragoczy.

Among those present were: Prof. Saladino Cramarossa, as representative of the High Commissioner for Health and Hygiene; numerous members of Parliament; members of the Diplomatic Corps; various city councilors and many other dignitaries.

The deputy-mayor, Avv. Andreoli, welcomed the scientists in the name of the city of Rome.

Addresses followed by the Dane Ragoczy, who has spent part of his fortune in the fight against infantile paralysis; Professor Spolverini, who expressed complete confidence in the work of the Conference; the President of the International Poliomyelitis Conference, Mr. Basil O'Connor, who, at the end of his speech, offered

Professor Marino-Zuco a "symbolic gavel" dedicated to the memory of Franklin Delano Roosevelt, the founder of the National Foundation for Infantile Paralysis.

Professor Marino-Zuco, director of the Orthopedic Clinic of Rome, reiterated the purposes of the Conference and reported on the work done in Italy to fight poliomyelitis.

At the conclusion, after having welcomed the participants at the Conference in the name of the Italian Government, Minister Martino expressed the hope that science may triumph in the fight against infantile paralysis.

Immediately afterward, Professor Marino-Zuco read a cable from President Einaudi to the Conference: "Grateful for the invitation and extremely sorry to be unable to reach Rome on this day, I wish to convey to you and all the illustrious scientists of every country who convene in Rome today for the Third International Poliomyelitis Conference the welcome of Italy, as well as my personal one. The problems which the Conference proposes to study are of extreme interest to the world of science as well as to the people, who are conscious of the graveness of this disease, and I am certain to express a unanimous sentiment in expressing for the work which commences today my heartfelt wishes for an early success."

---

## *The Official Conference Banquet*

---

The official banquet of the Third International Poliomyelitis Conference was held in the Grand Hotel in Rome on September 8, 1954. Dr. Morris Fishbein, vice-president of the International Poliomyelitis Conference, presided. Ambassadors of most of the nations which sent

official delegates to the Conference attended as guests and were introduced. The scene was colorful with the flags of all of the participating nations banked at the rear of the dais. Following are the addresses, somewhat condensed by the Editor, of the speakers on this occasion.

---

## *The Western Hemisphere*

DR. RENATO BOMFIM

São Paulo, Brazil

---

It is an unexpected honor for me to be appointed as one of the speakers on this memorable night. I accepted this invitation with great pleasure not only as a demonstration of friendship to my country but also because the designation of one speaker for the whole Western Hemisphere means that the leaders of this Conference are reaffirming and emphasizing not only that America means a geographic unity but also that the nations of our continent truly are united by the same ideals and similar aspirations.

Regional competition between our nations and sometimes the so well-known exalted nationalism in the Latin American countries may give the wrong impression that we are divided. But we are driving the same road under the common principles of democracy, freedom and humanity.

First, we want to give thanks for the warm hospitality that we are receiving from the official authorities and our colleagues of this great country.

The choice of the immortal city of Rome for the headquarters of the Third International Poliomyelitis Conference adds great significance to this meeting. In this city, each corner, each monument, every historical ruin, makes one feel and live the tremendous power of the spirituality, the art, the intelligence and the humanism that made the greatness of ancient Rome. These are still the dominant expression of the people

of this great country. All this is a source of inspiration for the crusade conducted by the National Foundation in the fight against poliomyelitis. This problem has been a challenge to medicine that goes back, as far as we know, to the primitive civilization of the Nile. The combined efforts of scientists and specialists from all over the world gradually are conquering poliomyelitis, the dreadful enemy of mankind, which is still killing, deforming and crippling a large part of humanity.

The National Foundation has created a most efficient organization for the victims of infantile paralysis in the United States. Also, it has promoted most important researches. Since 1948, the National Foundation has broadened its scope and organized these conferences to co-ordinate the efforts of scientists from all over the world. At last we feel that the moment in which this frightful enemy will be defeated is very close.

We are waiting with faith for the results of the vaccination of half a million American children promoted by the National Foundation; this is the largest experiment that has ever been done in the history of medicine. Whatever the results may be, the fight will continue until the very end. This is an ideal and also a statement of faith in the dawn of a new era in which our Western Hemisphere and Europe will be united for a better world.

---

## *Europe and the Eastern Hemisphere*

PROF. GINO FRONTALI

Rome, Italy

---

As an Italian, I feel proud that the National Foundation for Infantile Paralysis has chosen our country and particularly Rome for its Third International Poliomyelitis Conference. Italy may deserve this honor for the organization of her centers devoted to the study and the treatment of poliomyelitis, one of which was visited under the enthusiastic direction of Professor Spolverini.

But what has given us the warmth of a feeling which will remain deep-rooted in our hearts is the intimate co-operation with all of you from President O'Connor to Dr. Fishbein, Dr. Paul, Mr. Henwood and many others (a complete list would be too long) in the preparation, in the detailed organization and now in the splendid realization of this Conference. Consequently, the collaborative work in every one of our meetings has become a pleasure, and the intercourse with so many prominent colleagues of every part of the world renews our admiration for both the research work and

the effort which are made in your western world against poliomyelitis.

While other great problems divide humanity, the fight against poliomyelitis unites the efforts of men coming from every part of the world, and fortunately does not oppose East and West.

This reminds me of a child, who, having listened to grown-ups arguing about France, Germany, England, each of them wanting something different, interrupted the discussion and in his thin voice asked: "But is there something that everybody wants?"

We can answer: yes, everybody wants to defeat poliomyelitis and, borrowing the words from your and our President O'Connor, I shall conclude with his forecast: "*Together* we will advance into a new era of humanitarian endeavor, and mankind will ascend to the heights of true civilization under the leadership of men of science, men of faith and men of peace."

I lift my glass to the fortunes of these pacific fights and to their victory.



---

## *Research and Physical Energy*

BASIL O'CONNOR

---

As president of the International Poliomyelitis Congress, it gives me great pleasure to welcome you to the official banquet of the Third International Poliomyelitis Conference. You are a distinguished body of scientists, medical men and humanitarians, and it is I who am honored by the privilege of addressing you.

Our conference has been a magnificent success. At the sessions we have listened to the famous experts of a score of nations read papers, while those from many more nations have joined in the discussions and have made valuable contributions to them. Many different languages have been used by the speakers. The interpreters have translated them into the official languages of the conference so that one might listen in Italian, English, French, German or Spanish. But, actually, every speaker has used the same language. They have all spoken the common language of humanity.

This is the wonderful thing about our conference. It is the wonderful thing about all medicine and all science.

Medicine and science have always spoken an international language and the results of scientific and medical advances have been of equal benefit to all nations. In a day when the world is again troubled by an intensification of nationalism, it is well for us to remember this.

The effectiveness of penicillin does not depend on the nationality of the patient; it is equally useful in curing an Englishman, a Frenchman, a German, an Italian, an American or a member of any other nationality.

The radio works as well on this side of the Atlantic as it does on the other.

The scientists and the medical men are engaged in a common war on ignorance, disease, poverty and unhappiness. Their success benefits every nation. They make life everywhere happier, healthier and richer. It does not matter what the nationality of the medical scientist is. He is motivated by the same desire if he is a true scientist. The force which drives him on

is the desire to be of service to humanity. He spends long and weary days of hard work in his laboratory to uncover new knowledge that will make it possible for more people to live longer in better health. He has his allies in every nation, and they are all engaged in a common war. They are fighting the battle of humanity against the forces of disease. The advancement of science and medicine has always been an international story. The history of any great advancement will demonstrate it.

Because our meeting is here in Italy, I think of radio as illustrating this fact. I do so because of the magnificent role which a great Italian scientist, Guglielmo Marconi, played in its development. But the story of radio begins with scientific studies which no one at the time could have dreamed would lead to a marvelous and magical way of sending messages and the human voice across continents and oceans.

The story begins in the latter half of the nineteenth century, with attempts to understand the nature of light and electricity. These culminated in the electromagnetic theories of the great British scientist, James Clerk Maxwell, who proved that light consisted of electromagnetic waves. But if light was composed of such waves, there ought to be additional similar waves. These were discovered by the German scientist, Heinrich Hertz. The way was now open for the monumental achievement of Marconi. He took the discovery of Hertz out of the laboratory and transformed it into a practical invention for the use of the world. He made the first wireless telegraph, and, in the first decade of the twentieth century, sent the first message by wireless across the Atlantic Ocean. You know the story of what has happened since that day. The vacuum tube was developed by Fleming in England and by DeForest in the United States. Today we have the marvels of modern radio and television.

The history of this development illustrates a number of important aspects of scientific advance, in addition to the international char-