

EDITED BY  
W. J. Whelan  
Sandra Black

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**From  
GENETIC  
EXPERIMENTATION  
to  
BIOTECHNOLOGY**

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**The CRITICAL  
TRANSITION**

# From Genetic Experimentation to Biotechnology— The Critical Transition

*Edited by*

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*and*

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*University of Miami  
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A Wiley-Interscience Publication



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# **From Genetic Experimentation to Biotechnology— The Critical Transition**

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Consiglio Nazionale delle Ricerche  
The Committee on Genetic Experimentation

Proceedings of a Symposium  
**FROM GENETIC EXPERIMENTATION TO BIOTECHNOLOGY—  
THE CRITICAL TRANSITION**

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For the Consiglio Nazionale  
delle Ricerche

and

**Giorgio Bernardi**  
For the Committee on  
Genetic Experimentation

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## PREFACE

The organizing team would like to thank the International Council of Scientific Unions for its support and encouragement given to the Symposium. We are grateful to the Italian National Research Council (CNR) for its financial support and for providing the premises where the Symposium took place. We are also grateful to the Italian National Research Council (CNR) for its financial support and for providing the premises where the Symposium took place. We are also grateful to the Italian National Research Council (CNR) for its financial support and for providing the premises where the Symposium took place.

The organizing team would like to thank the International Council of Scientific Unions for its support and encouragement given to the Symposium. We are grateful to the Italian National Research Council (CNR) for its financial support and for providing the premises where the Symposium took place.

The idea to hold this Symposium was that of John Tooze, the Secretary of the Committee on Genetic Experimentation (COGENE) of the International Council of Scientific Unions. The suggestion was adopted by COGENE and a cosponsor was found in the Italian National Research Council (CNR), a national member of the International Council of Scientific Unions. We are most grateful for their financial support and for providing the premises where the Symposium took place, namely the Council's Rome headquarters. In particular we thank Ernesto Quagliariello, the President of the Council.

The Symposium took place during September 21-23, 1981. The scientific program was assembled by a group representing the cosponsoring organizations, COGENE and the Italian National Research Council. It is great pleasure to acknowledge the help of our colleagues on the Scientific Advisory Board, the composition of which was:

V. Sgaramella and G. Bernardi (Co-chairmen)

S.N. Cohen	J. Schell
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The main responsibility of collecting the manuscripts and preparing them and the discussions for publication has fallen on Sandra Black, whose help we gratefully acknowledge, along with our publishers, John Wiley and Sons Limited, and in particular their Publishing Editor, S.D. Thornton.

Most importantly of course, our thanks are due to the roster of speakers who helped us to cover the many-sided aspects of the science, the business management, the regulation and the politics of genetic experimentation, as the first fruits of the new technology come to commercial realization.

In addition to the financial support for the Symposium provided by the Italian National Research Council, the International Council of Scientific Unions and Unesco, we also received financial assistance from the following companies: Beckman Analytical, Rome; BIOLABO, Milan; Boheringer Biochimia Robin, Milan; Cilag Chemic Italia, Milan; Disi Italia, Rome; Eli Lilly, Sesto Fiorentino (FI); Farmitalia Carlo Erba, Milan; Glaxo, Verona; IBM, Rome; ISMUNIT, Pomezia (RM); I.S.V.T. Sclavo, Siena; Lepetit, Milan; Merck Sharp & Dohme, Rome; Miles Italia; Cavenago Brianza (MI); Prodotti Gianni, Milan; and the Istituto Farmacologico Serono, Rome.

To all our sponsors we offer our most grateful thanks.

We hope that this permanent record of the Symposium will serve as a comprehensive record of the critical transition of genetic experimentation into biotechnology as it looked in 1981, and that we will be seen to be fulfilling some of COGENE's important missions, which are "to review, evaluate and make available information on the practical and scientific benefits of genetic experimentation for the benefit of governments, inter-governmental agencies, scientific groups and individuals, by providing a forum through which interested national, regional and other international bodies may communicate".

V. Sgaramella, G. Bernardi, W.J. Whelan

For the Organizing Committee

# Introduction to the Symposium

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