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For Promoting Useful Knowledge

**EXPLORING
THE BORDERLANDS**
DOCUMENTS OF THE
COMMITTEE ON COMMON PROBLEMS
OF GENETICS, PALEONTOLOGY,
AND SYSTEMATICS

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PREFACE

This volume reproduces one *Report of Meetings* and six *Bulletins* from the Committee on Common Problems of Genetics, Paleontology and Systematics. This Committee operated as an administrative unit of the National Research Council (NRC), part of the US National Academy of Science. It was launched in 1943, blossomed for two years, then served as a cornerstone for other cooperative projects. These later projects included the journal *Evolution*, the Society for the Study of Evolution, and the 1947 Princeton conference on “genetics, paleontology, and evolution.” When discharging this Committee in 1949, NRC officials judged it an unqualified success.

Membership of the Committee on Common Problems included key contributors to reform of American evolutionary studies during the famous “synthesis” period, spanning the second quarter of the twentieth century. These reformers profoundly influenced later generations of evolutionary studies. In this light, considerable debate surrounds historical questions concerning this group’s accomplishments: precisely what did they achieve, and how were these accomplishments secured? No matter how historians approach such questions, they always return to the Committee on Common Problems.

The documents reproduced in this volume have remained out of circulation since their original distribution in the 1940s. Bringing them out of storage offers an chance to exam firsthand the Committee’s activities. It also provides an opportunity to reconsider questions of motivation, interaction, and influence.

For permission to republish these documents, I thank the Archives of the US National Academy of Science (Washington, DC) and the American Philosophical Society (APS) Library (Philadelphia). A complete set of bulletins is located both in the Committee’s files at the Archives of the NAS and in the Simpson Papers at the APS Library. For his generous foreword and his long-time support, I thank Ernst Mayr. I’d also like to thank Martin Levitt, Roy Goodman, Rob Cox, Valerie-Anne Lutz, and Janice Goldblum. Especially valuable has been support from Rita Dockery and Jarvis Cain. This editorial project was completed while I held the Frederick H. Burkhardt Resident Fellowship in Evolutionary Biology at the American Philosophical Society Library. I heartily thank Professor Burkhardt for his generosity. Some travel to archives was funded by a grant from the

Royal Society. This project is dedicated to the late Dr. Edward Carter II, Librarian of the American Philosophical Society. His fellowship and enthusiasm are sorely missed.

Joe Cain
May 2004

FOREWORD

ERNST MAYR

In the 1920s evolutionary biology seemed to be hopelessly split, and yet by the Princeton conference in 1947 a synthesis of the seemingly so divergent views had been achieved. Historians are vitally interested in how this could have been accomplished in such a short time. There were a number of mavericks, like Richard Goldschmidt, who had their own special theory of evolution. Overall, evolutionists were split into three camps: the (mathematical) population geneticists, the species-level taxonomists (“naturalists”), and the paleontologists. Each camp had its own history and subscribed to a special set of evolutionary theories.

The population geneticists originated with the T. H. Morgan research school at Columbia University. They stressed gradual evolution due to small mutations and they accepted natural selection. They opposed the early Mendelians (Bateson, De Vries, Johannson) who defended saltational evolution through large mutations and did not accept natural selection. Their views were unified in the 1930–1932 publications of R. A. Fisher, J. B. S. Haldane, and Sewall Wright. Their work unified the camp of the geneticists and could be called the Fisherian synthesis, after its prominent leader. This group dealt exclusively with genetic variation in a population. They completely neglected all problems of diversity, including macroevolution. It was up to the taxonomists to fill this gap. A first endeavor, the Society for the Study of Speciation, never developed owing to the war and the inactivity of its leader, Alfred Emerson. The efforts of other taxonomists were more successful, leading in 1946 to the founding of the Society for the Study of Evolution and the creation of the journal *Evolution* in 1947. This has been described in detail by Cain (2000).

This left out a third group of evolutionists, the paleontologists. They dealt with macroevolution, with fossil histories, and the causes of evolutionary changes. No other group of evolutionists was as divided as the paleontologists. Almost unanimously they rejected natural selection, and as a group, they were regrettably unaware of the advances that had been made by geneticists. Curiously it was a classical geologist, Walter Bucher at Columbia University, who decided something should be done about the backwardness of the

paleontologists and who found a powerful ally in George Gaylord Simpson.

Joe Cain has given us an admirable account of the highly diverse activities that led first to the establishment of the Committee on Common Problems and its activities. Unfortunately, the war then broke out and necessitated a curtailment of all traveling and most other activities. The founding of a scientific newsletter, the Committee's *Bulletin*, succeeded in maintaining some continuity during this difficult period, until Simpson returned from military service. Perhaps his absence was serendipitous because Dobzhansky (genetics) and Mayr (systematics) had considerably widened the sphere of interest of the Committee beyond paleontology. This established the basis for the founding of the Society for the Study of Evolution. By the time of the wind-up of the Committee through the Princeton conference, a unified science of evolutionary biology had come into being. For the historian there is no question the Committee's establishment and activity were crucial in the creation of the field of evolutionary biology and that this was one of the key events in the history of modern biology.

We are grateful to Joe Cain for bringing this important material to light and particularly for making the four issues of the *Bulletins* available in print. They played a crucial role in the founding of the journal *Evolution* and the Society for the Study of Evolution. These in turn were the decisive event in the establishment of evolutionary biology as part of modern biology.

Ernst Mayr
May 2004

APPENDIX 2

COMMITTEE MAILING LIST

[This mailing list accompanied *Bulletin* 1, dated 15 May 1944, and bore the header, "National Research Council / Committee on Common Problems of Genetics, Paleontology and Systematics / *Mailing List*". Adjustments from the membership proposed in the 26 February 1943 recruiting letter are described in 1 June 1943 "Report of the Committee on Common Problems of Genetics and Paleontology," in Simpson Papers, folder: "National Research Council (Committee on Common Problems ...), #1".]

- Prof. Edgar *Anderson*, Missouri Botanical Garden, 2315 Tower Grove Ave., St. Louis, Mo.
- Prof. Ernest B. *Babcock*, College of Agriculture, University of California, Berkeley 4, Calif.
- Prof. Walter *Bucher*, Dept. of Geology, Columbia University, New York 27, N.Y.
- Prof. Kenneth E. *Caster*, Dept. of Geology, University of Cincinnati, Cincinnati, Ohio
- Prof. Ralph W. *Chaney*, Hearst Mining Bldg., University of California, Berkeley 4, Calif.
- Prof. Bruce L. *Clark*, Hearst Mining Bldg., University of California, Berkeley 4, Calif.
- Dr. Edwin H. *Colbert*, American Museum of Natural History, New York 24, N.Y.
- Dr. G.A. *Cooper*, Division of Geology, U.S. National Museum, Washington, D. C.
- Prof. Kenneth W. *Cooper*, Dept. of Biology, Princeton University, Princeton, N. J.
- Dr. M. *Demerec*, Dept. of Genetics, Carnegie Institution, Cold Spring Harbor, Long Island, N.Y.
- Prof. Th. *Dobzhansky*, Dept. of Zoology, Columbia University, New York 27, N.Y.
- Prof. Carl O. *Dunbar*, Peabody Museum, Yale University, New Haven, Conn.
- Dr. M.K. *Elias*, Nebraska Geological Survey, University of Nebraska, Lincoln, Neb.
- Prof. Carl *Epling*, Dept. of Botany, University of California at Los Angeles, Los Angeles, Calif.

- Dr. Myron *Gordon*, American Museum of Natural History, New York 24, N.Y.
- Prof. Glenn *Jepsen*, Dept. of Geology, Princeton University, Princeton, N. J.
- Prof. Herbert L. *Mason*, Dept. of Botany, University of California, Berkeley 4, Calif.
- Dr. Ernst *Mayr*, American Museum of Natural History, New York 24, N.Y.
- Prof. H.J. *Muller*, Dept. of Biology, Amherst College, Amherst, Mass.
- Dr. Bryan *Patterson*, Curator of Paleontology, Chicago Museum of Natural History, Chicago, Ill. [1|2]
- Prof. F.B. *Phleger*, Dept. of Geology, Amherst College, Amherst, Mass.
- Dr. Alfred S. *Romer*, Dept. of Zoology, Harvard University, Cambridge, Mass.
- Dr. George Gaylord *Simpson*, American Museum of Natural History, New York 24, N.Y.
- DR.W. P. *Spencer*, College of Wooster, Wooster, Ohio
- Dr. G. Ledyard *Stebbins*, Jr., College of Agriculture, University of California, Berkeley 4, Calif.
- Prof. Curt *Stern*, Dept. of Biology, University of Rochester, Rochester, N.Y.
- Prof. Chester *Stock*, Dept. of Geology, California Institute of Technology, Pasadena, Calif.
- Dr. Horace E. *Wood*, Dept. of Biology, University of Newark, Newark, N. J.
- Dr. Sewall *Wright*, Dept. of Zoology, University of Chicago, Chicago, Ill.

Please notify Dr. Mayr if you discover any errors or omissions [sic] in this mailing list.

[end of text]