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Introduction

Michael T. Ghiselin[1] and Alan E. Leviton[2]

[1] *Center for the History and Philosophy of Science, California Academy of Sciences, 875 Howard Street, San Francisco, California; Email: mghiselin@calacademy.org;*

[2] *Department of Herpetology, California Academy of Sciences, 875 Howard Street, San Francisco, California; Email: aleviton@calacademy.org*

The present volume is based on a meeting held in Novara, Italy, on 31 May and 1 June 2002, under the aegis of the Museo di Storia Naturale Faraggiana Ferrandi, the California Academy of Sciences, and the International Council of Museums. It continues a series of publications based on meetings that have been held in Milan and San Francisco beginning in 1993. The topics of these meetings were: *Systematic Biology as an Historical Science*, *Systematic Biology as Historical Narrative*, *The Cultures of Natural History, and The Institutions of Natural History* (Pinna and Ghiselin 1996; Ghiselin and Pinna 1996; Ghiselin and Leviton 2000.) Although the meetings were not intended to provide comprehensive coverage, it has been possible to arrange the contributions to each volume in a meaningful sequence such that the collected works can be read as an interconnected whole.

Herein we focus mainly upon the natural history disciplines, and for these travel has been particularly significant. Of course, the exploration of the world has been an important aspect of the intellectual and economic development of European culture for several centuries. Likewise, travel has long been valued as a part of liberal education. But travel has been important for naturalists, whose materials often occur only in distant quarters of the globe. The impact of such travel has sometimes been quite unanticipated by the traveler, and it can transform a career, a discipline, or even the mainstream of intellectual history in general. But the motives and the benefits are no simple matter, and it is most instructive to view a series of case studies such as those that are presented here.

It seems appropriate that we begin in Italy, and in Novara, where the meeting was held. The development of natural history in Italy was profoundly conditioned by the circumstances of the birth of that nation, which only became unified in the middle of the nineteenth century and lagged behind other European powers in developing a unitary scientific establishment as well as a colonial system. Giovanni Pinna provides rich documentation with respect to the founding of the Novara museum. The collections on which it was based are of course unique and peculiar to this one institution, but the same might be said of natural history museums in general. Nearly all have roots in the personal interests of the collectors. And there are present consequences that need to be addressed.

Alberto M. Simonetta and Rosalino Sacchi relate Italian explorations in the horn of Africa to the colonial situation that existed late in the nineteenth century, using the second Bottego Expedition as a concrete example. Agnese Visconti steps back a little in time in her discussion of Filippo Parlatore's travels. As she emphasizes, Italy was somewhat backward prior to its unification, and therefore travel was important to Parlatore partly for his research, but perhaps even more so because of the contacts that he made with international science. Alexander von Humboldt, one

of the great scientific travelers in his own right, and a Prussian who for many years resided in Paris, is a central figure.

Michael T. Ghiselin shifts from Italy to Germany, but the travels of German scientists to Italy provide a smooth transition. He explores the underlying motivations for travel, especially those of the Romantic poet Goethe and the zoologist Ernst Haeckel for whom Goethe seems to have been an important role model. Haeckel's later travels to India and the Malay Archipelago seem to have been inspired by literary, artistic, and philosophical interests, as well as more strictly scientific ones. Anton Dohrn, a student of Haeckel at Jena, founded the great Zoological Station at Naples, after extensive travels in Italy. He built up a kind of intellectual empire, and his efforts to establish a kind of outpost in the Bismarck Archipelago provides a detailed example of the motives and the constraints that such efforts involved. Uwe Hoßfeld then discusses the travels of several Jena zoologists in the Malay Archipelago. There seems to have been a local tradition, and Hoßfeld's own trip to revisit the sites of the Lesser Sunda expedition of 1927 may be considered a part of it.

Edouard I. Kolchinsky goes farther afield with a treatment of eighteenth century Russian natural history expeditions. Although Russia was at the margins of Europe, under the leadership of Czar Peter the First it attempted to become, like England and France, a modern state with a centralized administration. It had its own academy of sciences founded in 1724. In that respect it was far ahead of both Italy and Germany, which were still fragmented. However, Russia was both economically and scientifically underdeveloped. In attempting to catch up with other countries, it was found expedient to rely at first on scientists from abroad, whose travels not only helped to define the boundaries of the Russian state but who also trained a new generation of Russians, many of whom took advantage of opportunities to extend the explorations to the eastern limits of the empire.

Great Britain in the late nineteenth century was the leading industrialized country in the world, and it possessed a vast colonial empire. There was much agitation within the scientific community for broader patronage of science by the government. Alan E. Leviton and Michele L. Aldrich discuss the Geological Survey of India, which was supported because of its economic utility. Nonetheless, the participants turn out to have been major players in the theoretical debates that were going on at the time. Along the same lines, Gary C. Williams shows that the well-known buccaneer William Dampier was also an important naturalist, hydrographer, and explorer.

Léo F. Laporte discusses the travels of the American paleontologist George Gaylord Simpson from a psychological point of view. Simpson seems to be a good example of the tendency of younger siblings to be more open to experience, and his extensive travels throughout a long career fit the pattern very well. Such openness correlates strongly with an innovative mentality. We might add that some of the greatest of traveling naturalists, ones celebrated for their innovations, were younger brothers. Humboldt, Darwin, and Wallace are fine examples. Haeckel's elder brother was a government functionary who was supportive of conventional values, including religious ones.

Why do scientists travel? Governments often have economic reasons for providing support and funding expeditions. They may also want to enhance national prestige. The United States Exploring Expedition (Wilkes Expedition) of 1837–1842 is an outstanding example of the latter. But scientists themselves, like museums, have stakes in expeditions and foreign travel. They want access to specimens and data from exotic places, and museums want to enlarge their collections. But scientists may also be driven by more personal needs and interests, including enthusiasm for scenery and a taste for the exotic. Their books on travel may be written in order to recover the expenses of the journey, to publicize the scientific results, to gain literary fame and glory, or any combination of these and other motives. They are often influenced by the accounts of their predecessors, who may serve as role models. Scientific travel is not just an activity, it is a tradition.

Participants in the Novara Colloquium on the *Impact of Travel on Scientific Thought.*
Photographs courtesy of Léo Laporte. See p. 4 for names of individuals in the photographs.

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The organizers of the Novara meetings and the editors of this volume have many to thank for making both possible. First and foremost, they acknowledge the Museo di Storia Naturale Faraggiana Ferrandi and its director, Dr. Maria Laura Tomea Gavazzoli, for hosting our meeting and the Province and Comune of Novara for provided funds that allowed us to bring the participants to their city. Further assistance was provided by Banco Populare di Novara and the Instituto Geografico de Agostini. Such generosity of both can scarcely be matched anywhere.

Dr. Giovanni Pinna, retired director of the Museo di Storia Naturale di Milano, acted both as our local representative and assisted in organizing the program. This is not the first time Dr. Pinna has taken on this responsibility; indeed, he and Dr. Ghiselin were the founding spirits behind the biannual meetings that have emphasized the study of cultures and institutions of natural history since 1993, when the first meeting was held in Milan at the Museo Civico di Storia Naturale.

Apart from normal editorial processing, all contributions to this volume have been peer reviewed by at least two of the following: Michele L. Aldrich, Michael T. Ghiselin, Alan E. Leviton, and Gary C. Williams, as well as by others who are individually acknowledged by the authors.

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Patricipants in the Novara Colloquium

Above (left to right): Christiane Groeben, Uwe Hoßfeld, Michael T. Ghiselin, Edouard Kolchinsky, Eric Buffetau, Maria Laura Tomea Gavazzoli, Ezio Vaccari, Agnese Visconti, Giovanni Pinna.

Below (left to right): Maria Laura Tomea Gavazzoli, Ezio Vaccari, Agnese Visconti, Giovanni Pinna, Christiane Groeben, Uwe Hoßfeld, Michael T. Ghiselin, Edouard Kolchinsky, Eric Buffetau.

Participants not in photograph: Léo Laporte (taking photographs); Michele L. Aldrich, Alan E. Leviton, and Gary C. Williams (unable to attend but papers read in their behalfs by Drs. LaPorte and Ghiselin). Photos courtesy Léo Laporte.