

Epilogue

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This volume celebrates a proud legacy of natural history museums, including earth science institutions and botanical gardens, particularly in the United States. It is a tradition that dates back to our founding as an independent nation. Moreover, the science and the collections of these institutions are what have traditionally defined their character and their individual and collective impact.

The first eight papers in this volume bring to light the historical traditions that have molded our exploration of the natural world, beginning in the late 18th Century and continuing through much of the 20th Century. The times and the challenges that each institution has faced differ markedly, but the flowering of these natural history institutions is underscored. It is evident that unrelenting visionaries such as Charles Willson Peale, Spencer Fullerton Baird, and William Temple Hornaday are largely responsible for the noble traditions we have inherited and often take for granted. It is also made clear that our natural history institutions have taken on the personalities of the individuals who have led them and worked at them. Each one has its own changing character, and each has flourished or suffered from good or bad leadership, as well as times of good and bad fortunes.

On the other hand, it was Giovanni Pinna (2000) who called our attention to an alarming trend that has become rampant among natural history institutions. He observed that in recent years natural history museums have become more and more homogeneous. Each one has installed its very own obligatory dinosaur, it has a mineral hall, and it has some form of dioramas. The latter may be classical or, in more contemporary treatments, open. Pinna contends that this homogenization is largely a result of the programmatic separation of the research and public program enterprises in the realm of natural history museums. This trend has been compounded by trends in the academic enterprise that spill over into the museum arena.

One of the most profound intellectual changes that began in the 1960s was the marginalization of systematic biology. With the advent of “more important” molecular biology and biochemistry, organismal biology began to languish in terms of its stature and funding. This had profound impacts at universities, where systematists and other organismal biologists as members of their faculties, were not replaced on retirement. As a result, natural history museums became the last bastion of systematic biology. This trend essentially bottomed-out in the mid- to late 1980s. Two events have prompted the resurgence of systematic biology. The first is an intellectual one, the so-called “Hennigian Revolution,” which included the acceptance of a new paradigm for the more rigorous testing of phylogenetic relationships and the deriving of a classification system of organisms

SOME VISIONS OF THE FUTURE FOR THE CALIFORNIA ACADEMY OF SCIENCES(LEFT): From coral reef habitat (top) to central themes such as Island Evolution (right center) and Galapagos Islands (right bottom) to tropical rainforest (left center) and sustainable architecture (left bottom).

directly from these results. This major advance rekindled the acceptance of modern systematics as a vital science. The second is the realization that we grossly underestimated the diversity of life on Earth, and this realization is coupled with a human-induced extinction of species that rivals the great extinction events of the geological record. These factors combine to produce a biodiversity crisis that necessitates systematic biology as the primary vehicle for understanding the diversity and distribution of life on the planet. We cannot protect and conserve that which we do not know!

Other factors have profoundly influenced museums in recent years. For instance, one dynamic that has shaped the direction of museum exhibits is the concept of the “traveling blockbuster” exhibit. This is an idea that began with fine arts museums in the 1970s and produced exhibits such as “King Tut”. It also morphed into a reliance on the traveling exhibition as a way of bringing freshness to museums to compliment permanent halls and to sustain visitation. Another trend in museums has been the establishment of science and technology centers. Based on the traditions of long established institutions like the Children’s Museum of Boston and the Museum of Science and Industry in Chicago, and the success and innovation of San Francisco’s Exploratorium, a proliferation of science and technology centers has occurred around the globe. These institutions focus on combining interactive exhibits and visitor experiences to meet predetermined educational outcomes.

Presently, natural history institutions are re-examining the roles they must play to meet the challenges we face in the 21st Century. Thus, the major natural history museums in the United States, and many other similar research institutions both here and abroad, are in the midst of dynamic change. In some ways, they are returning to their roots, rather than trying to be “everything to everyone.” In focusing on their individual, and oftentimes unique strengths, whether national, regional, local, or academic, all are looking for innovative ways to help turn the tide against the trend of decreasing science literacy at a time when scientific knowledge is ever more important to a contemporary citizenry. That citizenry is simultaneously becoming more diverse culturally. The challenges are great, but so, too, are the opportunities. We see this in the final six papers in this symposium that explore case histories of how different institutions are coping with changing societal needs within the context of their core missions. Whereas each institution is looking at these challenges in a different manner, there are remarkable similarities in the ultimate direction they are choosing. Yet, Giovanni Pinna would be pleased with the paths they are taking. Each is exploring ways of building on its strengths and traditions, and this will, undoubtedly, lead to institutions each with its own distinctive suite of characters rather than homogeneity that seemed to be taking over. Bill Conway’s tale of “elephant ears” (see Raven, this volume) may have run its course. Out of necessity, these institutions will also serve our society well in an epoch of dealing with fundamental challenges to the survival of species in a rapidly diminishing natural world. Each is responding positively to further our understanding of both biodiversity and the need to conserve that biodiversity and other natural resources, as Dr. Raven has so aptly argued in his presentation in this volume.

LITERATURE CITED

- PINNA, GIOVANNI. 2000. A philosophy for natural history museums. Pages 333–337 in M.T. Ghiselin and A.E. Leviton, eds., *Cultures and Institutions of Natural History*. Memoir of the California Academy of Sciences 25.