"Itineraries matter for the formation of ideas," so begins the latest addition to the growing literature on travel, exploration, science and empire "in the wake of Cook," titled The Travelers' World: Europe to the Pacific. Written by Harry Liebersohn, a European cultural and intellectual historian, the focus of this study is indeed on the ideas, perspectives, and worldviews that accompanied the movement of people traveling between Europe and the Pacific in the late 18th and the early 19th century. During this interval, several scientific voyages from Europe were sent to the Pacific to survey both the lands and the peoples of what was increasingly recognized as a huge and useful portion of the earth. In the process of movement, travelers' experiences shaped not only their views of each other and their natural worlds, but also the views of people "back home." By focusing on the "less explored role of travelers as links between metropolitain histories and overseas encounters," Liebersohn's project aims to get at the shifting perspectives or the "viewpoint-in-motion" that resulted because of these encounters. Such a project, he states, "obliges us to rethink the meaning of point of view."

This is admittedly an ambitious goal, but it is made more ambitious still, because Liebersohn's project goes beyond the travelers' placed at the "center" of his story. It is also simultaneously about the intra-European networks that both fostered and shaped their interests, which were but mere nodes in an expanding "global system of knowledge," that was emerging in the period between 1750–1850. "The Europe of Liebersohn's world, "hungered" for knowledge about the non-European world, but was also one that was undergoing both large-scale intellectual and political shifts that saw the transition from the Enlightenment to revolution and to Romanticism; the dialogue between Europe and the Pacific was thus transformative of varied intellectual and political projects on-going at the time. Liebersohn's book thus tries to trace the dynamic connections between travelers and indigenous peoples, their interactions with traders, "informants," beachcombers, missionaries, and sea captains, along with the patrons and intellectuals back home all within an expanding - and expansionist - European empire.

To get at what is an inordinately complex project, Liebersohn focuses his study on naturalist-travelers from the voyages of Cook to the famous voyage of Charles Darwin. Three are singled out for closer study: the Frenchman Philibert Commerson who sailed on Louis de Bougainville's voyage of 1766–69; the German-born George Forster who accompanied his father on Cook's second voyage of 1772–1775; and the French-born Prussian émigré Adelbert von Chamisso who accompanied the Russian Rurik voyage of 1815–1818. Liebersohn follows in detail the experiences of all three especially through their travel writings, which were replete with ethnographic observations of the Pacific Islanders they encountered in their travels. These gained currency in Europe where they were consumed by a reading public engaged in debates about social status, social organization, human nature and its origins. Ethnographic accounts of societies of Polynesia, it was hoped at least initially, might offer insights or alternative models for the social life of Europeans; previous accounts of the Americas had already become "the stuff of European stereotype." But the reality encountered by the travelers in the Pacific was vastly different from what they had expected. They negotiated complex social rituals and sexual practices and mores that defied any previous understanding; Polynesian societies had complex rules, structured behaviors and rituals, and were replete with "fiercous island politics." Knowledge of basic survival, to sophisticated nautical skills, matched if not exceeded that of any of the Europeans. What the travelers encountered, in short, were hardly the stereotypes that they had expected, but instead, "a greatly enlarged inventory of human possibilities." Writing home, the travelers painted a picture of places like Tahiti and Hawaii as extant paradises, or modern-day utopias. The accounts rapidly became the currency for intellectual discussion that both provided a set of liberating alternatives to Europeans in search of a coherent theory of human nature, but that also enabled a set of racial theories that justified colonization. Such contradictions represented the Enlightenment.

The turning point in Liebersohn's tale of encounters in the Pacific came at the turn of the century, with the influx of an assortment of missionaries. By then, the paradigmatic phase was ending as Pacific Islanders were falling to European diseases like smallpox and as proselytizing missionaries sought to save the "primitive" societies through religious conversion. Encounters between scientists and these missionaries, precipitated what Liebersohn describes as "the great missionary conflict." The book ends in the 1850s with the contrasting figures of Charles Darwin who defended the missionaries and Herman Melville who deplored them. Tracing out the differences in their views of Pacific Islanders as expressed in their writings, Liebersohn argues that "the two men's differences mark the breakdown of a unified travelers' world."
Determining the Earth’s age


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How old is the Earth? That question has intrigued people since they began to measure their world’s cosmographic and physiographic properties. And since the Renaissance, fixing the planet’s birth date and charting its subsequent history have been the focus of much intellectual effort. Partly inspired by Robert Hooke’s idea of mapping out a complete chronology of the Earth, these endeavors produced diverse and conflicting answers.

For most of Hooke’s century, as Cecil Schneer has described in The Search for Order (1960), Europeans assumed the finiteness of space and time. Then, Newton’s direct measurements presented an infinite, clockwork universe. His system, however, began at the Creation and retained the idea the Earth was less than 6000-years old, an age proposed earlier in the century by Archbishop James Ussher and his fellow theologians. Ussher and his colleagues used biblical lineages to confirm earlier estimates by Theophrastus and other naturalist-philosophers.

The transition from a shallow to a deep history of the Earth began with the increasing realization during the 18th century that the planet’s fossils represented the remains of past organisms, most of which were unlike those still alive. This record meant that organisms had changed through time — either by a series of special creations or by the continuing action of natural causes — and thus clashed with the Newtonian vision of a static world with a brief history. Two new relative time scales for the Earth emerged: the strata-based geognosy of Abraham Werner and the strata-plus-fossils geology of William Smith. In the 19th century, Charles Darwin extended to the organic annals Charles Lyell’s gradualistic interpretations of the changes in the geological record and gave humans their place on the tall tree of life.

These and other methods yielded estimates of the Earth’s age far greater than those of Ussher and his colleagues. John Joly, Charles Walcott, and other geologists used the total accumulation of sedimentary rocks since the Precambrian and present rates of sedimentation and erosion to reach estimates of between 10 and 100s of millions of years. Using thermodynamic principles, physicist William Thompson (later Lord Kelvin) revised Newton’s and Georges de Buffon’s calculations that the Earth took between 50,000 and 76,000 years to cool. Kelvin later accepted the estimate of 24 million years, based on collaborative observations and experiments by geologist Clarence King and physicist Carl Barus, a number King needed to support the short and episodic planetary history. The discovery of radioactivity in 1896 as a new source of internal heat for the Earth and the appreciation that radiometric decay sequences were like clocks overthrew almost all earlier age estimates. Radiometric investigations by Bertram Boltwood and Arthur Holmes extended the Earth’s age to several billion years and led to Clair Patterson’s estimate of 1953 of 4.5 billion, a figure that has not since been seriously challenged.

Wyse Jackson’s The Chronolocers’ Quest provides an episodic history of this uneven road traveled by Schneer and other historians of geology and is the latest in a century-long lineage of volumes that began with Karl von Zittel’s History of Geology and Palaeontology (1901). The sequence of episodes Jackson chooses stems from his participation in “Celebrating the Age of the Earth,” the Geological Society of London’s William Smith Millennium Meeting in 2000. He contributed an article about Joly to the meeting’s proceedings — The Age of the Earth: 4004 BC