

# Review Essay: Anthropology As Natural History

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Anthropology became a separate discipline in the second half of the 19th Century when it began to make systematic comparisons among cultures to determine what they had in common and why. Still earlier, travelers and scientists recorded important observations and characterizations about individual cultures that went far beyond the purely descriptive and that in many cases provide the best information about cultures before they were significantly altered by the impact of Western Civilization. Among the most important observations were made during the first major period of scientific expeditions that began in 1768, when **James Cook** set out on his first exploration of the Pacific Ocean, and that ended in 1836, when **Charles Darwin** returned from his voyage on the *Beagle*. **Cook's** expedition inspired **Alexander von Humboldt**, and **Humboldt** in turn inspired **Darwin**. These three expeditions had major influence on the development of anthropology as well as natural history and geography, and they are also among the most important examples of travel literature.

**Darwin** often referred to **Cook** and **Humboldt** in his diary. He wrote about "**Cook**, whose most excellent judgment none will dispute..." (390). When he reached the harbor of Good Success in Tierra del Fuego, he wrote "the very name of the harbor we are now in, recalls the idea of a voyage of discovery; more especially as it is memorable from being the first place **Capt. Cook** anchored in on this coast; and from the accidents which happened to [the naturalists] **Mr. Banks** and **Dr Solander**." He enjoyed going where **Cook** had been and seeing what **Humboldt** had described. He wrote, "few things give me so much pleasure as reading the Personal Narrative..."; "I am at present fit only to read **Humboldt**; he like another sun illumines everything I behold" (1986: 109, 60, 38).

These expeditions had much in common. All three explored primarily in the relatively unknown Southern Hemisphere, and all included naturalists. **Cook** and **Darwin** explored as official representatives of the British government. **Cook's** initial voyage was the first ever undertaken primarily for scientific purposes. Each expedition set new scientific standards and made a permanent and major contribution to science. All three produced enormous collections of scientific material, and **Humboldt** and **Darwin** made good use of what they learned during long careers that were devoted wholly to research and writing.

Before the middle of the 19th Century, anthropology was considered part of natural history; and consequently, **Cook**, **Humboldt**, and **Darwin** recorded anthropological as well as biological data everywhere they visited. In addition to recording information that was soon afterwards unavailable, naturalists provided the scientific basis for anthropology. Their most important contributions were objective observations, incisive characterizations, and systems of classifications that paralleled the Linnaean system for plants and animals. Another result of anthropology's origins as part of natural history is that some of the finest collections of Primitive Art were acquired by museums of natural history. Eventually, **Darwin** established the study of man as an integral part of Biology.



ILLUSTRATION 1: TATOOED MAORI

## James Cook

From 1768-1780, **Cook's** ambition was to travel "not only farther than any man has been before me, but as far as I think it possible for man to go" (II, 332). He discovered more of the world than anyone had previously or ever would. He was a ship captain, a highly skilled navigator and mapmaker, and an explorer. Unlike **Humboldt** and **Darwin**, he had no training in natural history and little formal education, but his interests were as wide-ranging as theirs, and his observations were equally incisive, better summarized, and better written.

On his first voyage from 1768-1771, **Cook's** ship, the *Endeavour*, went to Tahiti

to enable a group of scientists to observe the transit of the Planet Venus across the Sun in order to provide improved astronomical observations for navigation. Afterwards, he mapped the coast of New Zealand, which is about the size of Britain and has a coastline of 2,400 miles, and he also mapped the east coast of Australia with greater accuracy than any equivalent area had ever been explored and mapped simultaneously.

On his second voyage from 1772-1775, **Cook** circumnavigated Antarctica, going as close to it repeatedly as was prudent under the circumstances, and he concluded correctly that it was a continent (II, 323, 645). He then systematically explored the South Pacific and established for the first time that no undiscovered continent could exist in the Southern Hemisphere (II, 325). At the end of his second voyage, he wrote, "I have now done with the South Pacific Ocean, and flatter my self that no one will think that I have left it unexplor'd..." (II, 587).

On his third voyage, **Cook** discovered Hawaii (the Sandwich Islands) and located Easter Island with precision (II, 350). He explored and mapped the north Pacific and searched for a Northwest Passage, suspecting that one must exist since there were Eskimos in Alaska and Greenland, but it was frozen over (III, 468). He returned to Hawaii, where he was killed.

**Cook's** accomplishments included improving the accuracy with which longitude could be established. His voyages were also notable for experiments that found ways to prevent scurvy, the vitamin deficiency that had made all previous long voyages deadly. His explorations of Australia and New Zealand resulted in their eventual settlement as British colonies. He personally recorded all three voyages in vivid detail and concisely summarized data on numerous cultures (societies with a coherent set of distinctive traits). The principal naturalists who accompanied him also produced detailed accounts of indigenous peoples and particularly **Joseph Banks** on the first expedition and **George Foster** on the second.

Tahiti was discovered in 1767 by the English and was visited by the French in 1768. From 1769-1777, **Cook** visited it repeatedly for lengthy periods and recorded the ways of life of its people before they were changed by outside influences. Australia (New Holland) and New Zealand had been discovered by the Dutch by 1606 and 1642, but had not been settled, and the Aborigines and Maori's way of life were intact when **Cook** recorded them.

During his three voyages, **Cook** spent the most time wintering among the Tahitians and New Zealanders. On his first voyage, he took some Tahitians with him west 2,500 miles to New Zealand, and to everyone's astonishment, the distant and more culturally advanced Tahitians could understand the language of

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the Maori (I, 169). This also turned out to be the case at Easter Island and Hawaii and so within an area that is roughly triangular with sides about 5,000 miles long (II, 351; III, 264). The question that naturally arose was how these peoples with canoes and sailing catamarans became distributed throughout nearly a fourth of the world in a short enough time to retain essentially the same language, but long enough to have developed significantly different cultures.

The most elaborate culture was located near the center of the triangle and more distinctive ones at its corners. New Zealand had the most elaborate curvilinear carving in wood and the most elaborate tattoos, but used primitive technologies and was still at the tribal level.



ILLUSTRATION 2: MAORI CARVING

Easter Island had the largest monumental sculpture, but otherwise the fewest cultural traits and by far the smallest population in the most isolated part of Polynesia, but was nearest to the Americas. Hawaii had a highly complex culture like Tahiti, but it differed substantially. One Tahitian provided details about 70 different islands, clearly indicating wide geographical knowledge and communication (I, 138), but by contrast, the Maori believe they were the only people in the world (I, 508).

Cook considered the South Seas a “Terrestrial Paradise” (I, 507), but noted the bad along with the good. The Tahitians had a casual attitude towards sex, but syphilis had recently been introduced and was spreading rapidly. He wrote, “a connection with Women I allow because I cannot prevent it...” (III, 61).

Although food was abundant in Tahiti, all land was held by a small group, and the fruit of every tree belonged to someone (II, 270). There was a “king,” but his powers were limited to his ability to persuade and he talked with anyone (I, 134; II, 410). The total population of Tahiti was about 204,000, and full-scale civil wars occurred between opposing factions in different parts of the main island fighting over land, succession, and similar causes (II, 408-9; III, 213). Tahitians were good natured, but “thieves to a man” when the property belonged to outsiders, but Tahitians who stole from one another were beaten to death (I, 124; II, 224, 428). They treated women well, but did not eat with them. Most Tongan men and women dressed alike with a cloth wrapped around them from their stomachs to below their knees, and men ate with women. Whores were numerous, but there was no promiscuity. Tonga was ruled by a “little brat” who had inherited his throne from a “madman” (III, 168, 170, 179). The Maori were liars and cannibals, but only ate their enemies and were not treacherous like Europeans, and every tribe urged Cook to kill all the others. They went nude like the Fuegians, Aborigines, and others (I, 196, 203, 280, 395, 507; II, 294, 597; III, 52, 62). Throughout Polynesia, the Cook Expedition learned of “...*Tabu*, a word of very comprehensive meaning but in general signifies forbidden” (III, 129).

Cook’s summary of the Aboriginal way of life is first-rate Anthropology, and while what he described of Australia was not idyllic, he concluded that Aborigines were more content than Europeans (I, 395-399, 508). His regular summaries of ways of life deserve to be published together as models of their kind together with those by McKenzie, Adair, and Bartram. The Nootka of the Northwest Coast in Canada lived in plank houses as long as 150 feet, but with flat roofs at the time. They had carved posts, but less elaborately carved than they were able to carve a century later with metal tools (III, 317-9).



ILLUSTRATION 3: NORTHWEST COAST CARVING

Eskimos were the “most peaceable and inoffensive people I ever met with” (III, 459). He discussed similar methods of making fires, but warned that “...accidental agreement in a few particular manners or customs is no proof that two Nations are of the same extraction...” (III, 462). One of his last notes was that the Hawaiians were trusting, never cheated, and rarely stole, but he expressed justifiable concern when a thousand or more canoes surrounded his ship (III, 483-9).

The reading public of Europe found such information of great interest, and travel accounts by Cook and his associates became best sellers and had a great influence on conceptions of primitive cultures and in particular on the further development of the idea of the Noble Savage, which had been discussed by Roman writers such as Tacitus and which had received much support from travel accounts among Indians of the Americas before the Pacific was explored.

Accounts such as Cook’s and the naturalists who accompanied him also provided much material for speculation about why some peoples who were representatives of the same cultures had a simple political organization and others a complex organization and why some lived simply in abundance and others had far more cultural traits, and the well attested and persuasive information that was being discovered on a regular basis in the 18th Century was put to good use in attempts to reconstruct what the developments of all cultures had in common. The accumulation of scientific data about primitive cultures provided a firm basis on which the principles of anthropology could be developed, and no expeditions had previously contributed more reliable data than Cook’s and the scientists and artists of his expeditions. Public interest was further heightened by the many hundreds of drawings produced during the expeditions and by the thousands of artifacts that many members of the crew collected. Many of these artifacts were displayed in the British Museum and in other museums worldwide. Like the plants and animals that were recorded, the peoples and artifacts were carefully studied and accurately reproduced.

Naturalists on the first expedition by Cook discovered more than 1,000 new species of plants (I, 644; cf. 651), and the specimens they collected have survived and provide the best indication of which plants were brought by Polynesians along with them when they spread throughout the Pacific and where they brought them from. Many islands of the Pacific were close enough together to have been easily discovered, and some were undoubtedly discovered by accident. Cook mentioned encountering four men from Tahiti who had lost their course and survived a voyage of about 500 miles to Atiu (III, 86-7). He noted that Polynesians navigated by using the sun or stars and as a last resort by the directions of breezes and waves (III, 164). The evidence gathered by Cook and his associates is still being debated. The great majority of plants they collected came from Asia, but the sweet potato is native to South America and the

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name for it used throughout Polynesia was South American. The monumental sculpture of Easter Island resembles sculpture of Central and South America more than the sculpture of the rest of Polynesia, and South America is closer with favorable ocean currents in between. Archaeological evidence has since demonstrated that the initial occupation of Polynesia began over two thousand years ago, providing time for the unique features of its culture to have developed in isolation with influences from the east and west. It is certain from ocean currents that the Maori came to New Zealand from, central Polynesia, and the two groups had probably been separated for about six centuries. Little else is certain, and it is extraordinary that after settling most of the Pacific Oceans, the Polynesians are not definitely known to have colonized either Australia or South America. Genetic studies promise to provide additional evidence, but all of the types of evidence will have to be fitted together into a coherent whole for the problems relating to the origin and development of Polynesia to be wholly solved, and among the most important evidence will always be the systematic information that was first provided by the **Cook** expeditions.

**Cook's** own accounts are the most comprehensive of all aspects of the expeditions as well as the most incisive and readable, and his original logs and revised versions of them have survived, which is fortunate since their initial publication involved poor selection and inaccurate editing. The definitive edition based on the manuscripts is the four volumes with a portfolio of maps edited by **J. C. Beaglehole** for the Hakluyt Society from 1955-1967, but as essential as this edition is for reference, it includes more by **Beaglehole** and others than by **Cook**, making it difficult to use and almost unaffordable. No edition includes all that **Cook** wrote and only what he wrote, and a publishing opportunity exists for a complete edition of his text. It needs nothing more, but some well chosen illustrations made during the voyage, some photographs of artifacts that were collected, and a few maps would make a more salable book of perhaps two volumes. All of his text could fit in a single volume if India paper were used and if sailing directions and weather information were printed in small type. A separate volume deserves to be printed with his anthropological accounts for use as a student textbook.

### **Humboldt**

**Cook's** expeditions inspired many others, and among the most productive was the five-year expedition of **Alexander von Humboldt** and **Aimé Bonpland** to South America. **Humboldt** personally knew **George Foster**, a German naturalist who with his father, **Johann Reinhold Foster**, had accompanied **Cook** on the second expedition and who incorporated much of his father's journal into an unauthorized, but valuable account of the natural history and cultures encountered. **Humboldt**

was so deeply impressed that these accounts changed the course of his life.

**Humboldt's** father prepared him for a career in government, and his earliest studies included economics, political science, and modern languages, knowledge that **Humboldt** later put to good use during his travels, but he was more interested in biology and travel. When 18, **Humboldt** decided he wanted to explore tropical regions of the world, and he began to prepare himself thoroughly. He studied all aspects of science, traveled widely in Europe, and worked as a professional mining engineer with the Prussian Mining Service from 1792-1796. At age 27, he became financially independent, and he hoped to accompany a French expedition to the Pacific, but when the Napoleonic Wars prevented the expedition, he went to Spain and obtained permission to travel throughout South America and Central America. He was a baron whose father had been an official in the German court, and the King of Spain, Secretary of State, and Council of the Indies approved his plans and gave him passports to travel throughout Spanish possessions and instructed local officials to cooperate. He hoped eventually to join the planned French expedition when it reached South America, but when that expedition never materialized, he expanded his travels from northern South America to include Cuba, Mexico, and Peru and consequently extended his trip to a total of five years.

**Humboldt** was the first naturalist and the first and last foreigner to travel widely in Hispanic America shortly before it ceased to be a Spanish possession, and he made full use of the opportunity. His record of the ways of life, economies, and governments he encountered in many cases provide the best summaries ever made before Central and South America were divided into separate nations, and his travel account was widely published and read for what he recorded about the geography and economies of the Americas as well as natural history.

At his own expense, **Humboldt** financed his expedition and persuaded **Aimé Bonpland**, a professional botanist, to accompany him. He purchased about forty scientific instruments including a barometer to measure heights, an excellent telescope to examine the southern sky, and microscopes. He carried with him a library of natural history books. To travel in interior areas with so much equipment, he hired numerous pack animals, guides, and interpreters for the Indian languages.

**Humboldt** and **Bonpland** explored primarily in what is now four countries: Venezuela, Cuba, Peru, and Mexico. Everywhere they went, they recorded information about biology, geology, geography, anthropology, economic history, and meteorology. Altogether, they spent 16 months in Venezuela, and about two-thirds of the narrative is about Venezuela, concluding with a geographical summary of the country. Afterwards, they spent about one-third of a year in Cuba (which they visited twice), and with access to official records, **Humboldt** produced a monograph about Cuba that became the standard study and that still contains

information nowhere better recorded. They also spent nearly three years traveling along the Andes from Columbia to Peru and nearly a year in Mexico, but the narrative for this part of their travels is summary. The scientific results relating to the Andes and the geographical description of Mexico were published mainly in separate monographs rather than as part of his journals.

**Humboldt** and **Bonpland** spent four months exploring the Orinoco River and traveled approximately 1,700 miles by canoe in order to establish where and why it flows both to the north and to the south with part of its waters flowing into the Amazon and the rest entering the Atlantic in Venezuela. They found that the Orinoco drains a large highland area and that when it enters a depression in the lowlands, it divides like channels in a delta and flows in two directions (II, 425). This had been asserted previously, but was disputed and unexplained, and an accurate map had never been made of the supposed canal that is actually a natural waterway connecting the Orinoco to the Amazon.

While on the Orinoco, **Humboldt** recorded in detail the peoples who were encountered, and he wrote, "...we seem to be present at the birth of human societies" (II, 361). He noted that **Tacitus** had described the Germans as backward, but found reasons to admire them nonetheless (I, 122). He too found much to admire, but he was dismayed that tribes speaking different languages hunted one another "as we hunt game" (II, 412) and that their animosities had been encouraged by Europeans who traded for captives to sell them as slaves (II, 427). He wrote that instead of educating Indians, missionaries had made them "stupid by the effort to render them obedient" (I, 203). He called education a "source of national wealth" and pointed out that "oppression... is always accompanied by progressive impoverishment..." (III, 124). He warned of inevitable and continual conflicts if the White, Red, and Black peoples of the Americas were not given equal rights and educational opportunities, and **Simón Bolívar** later acknowledged **Humboldt's** influence.

While in the Andes, **Humboldt** and **Bonpland** climbed a 20,000-foot volcano and recorded how species of plants changed at various elevations indicated by barometric pressure. This important evidence resulted in the observation that altitude and latitude had similar effects on the distribution of plants.

While in the Americas, **Humboldt** and **Bonpland** collected nearly 3,600 new species of plants. Both of them collected plants and made drawings of plants and views of prehistoric architecture. **Humboldt** also collected geological specimens and recorded thousands of astronomical observations, made continual notes on temperature and humidity, and recorded vocabularies of Indian languages. The final shipment included a complete set of approximately 6,000 plants, seeds, shells, insects, fish, reptiles, and rocks. This set had been carried everywhere with them, which proved wise because many of the duplicates

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sent separately to Europe were lost. Everywhere they went, they recorded everything they saw. No previous expedition was broader in scope, lasted longer, went further by land, was better equipped, or resulted in more new knowledge. **Humboldt** set a new standard for the study of natural history and for the publications of the results.

**Humboldt's** journal of his travels is encyclopedic, exhaustive, and exhausting. His paragraphs are often essays, and his essays are monographs. Whenever he first mentioned a topic, he inserted a summary of all relevant observation and of related research. For example, when he reached Teneriffe at the beginning of his trip, he summarized everything he considered most important about volcanoes and discussed volcanoes he saw later in the trip as well as in his earlier travels. Long essays were also inserted on earthquakes, Indian languages, electric eels, "venomous insects," poisons, the initial exploration of South America, and other topics. He had indeed "acquired the habit of viewing the globe as a great whole" (I, 105), and while this had great advantages for science, it had disadvantages for most readers. These essays are so densely packed with information that they seriously interrupt what he referred to as a "narrative of travels" on his title page. They are unsuccessful and unneeded as a literary device to add interest to his journal. A better plan would have been to publish them in a separate volume, and he did later publish a collection of his essays.

There are other reasons that **Humboldt's** narrative does not make easy reading. He was continually trying to relate everything he knew. He took for granted a good knowledge of all the subjects he was interested in and particularly geology, but he really was interested in everything. He often used a technical vocabulary and inserted untranslated quotations from numerous languages. Even though he wrote in French, it is sometimes difficult to follow his meaning. A literal English translation of his work by **Helen Maria Williams** was soon followed by a more readable one by **Thomasina Ross**, and there are continual reminders that it was made in 1889. **Humboldt's** narrative is difficult, but consistently comprehensive, detailed, accurate, and provocative, and an even better translation is needed with more of his maps and illustrations. The journals he actually wrote during his trips need also to be translated and published.

On his way back to Europe, **Humboldt** visited the United States to pay his respects to **President Thomas Jefferson**, whose *Notes on Virginia* he had read and admired, and he provided **Jefferson** with information about Spanish possessions adjacent to the Louisiana Purchase. **Jefferson** wrote that he had never met anyone with so great a fund of knowledge. **Humboldt** was for several decades a close friend of **Goethe**, who praised him in similar terms.

Among **Humboldt's** most important accomplishments were the creation of two

scientific disciplines: physical geography and meteorology. By the middle of his life, he was well along in mastering every subject, but he still needed assistance in interpreting his finds. He persuaded the leading men of French science to join him and **Bonpland** in evaluating their collections, and **Curvier** was among those who made major contributions to the publications that **Humboldt** spent the remainder of his patrimony to finance. The results of the expedition took from 1805-1839 to evaluate and to publish in a total of 34 volumes. Eighteen volumes were devoted to botany, two to zoology, two to scientific measurements, and 12 to geography (including the three volumes of travel narratives, a two-volume analysis of Mexico [New Spain], and a one-volume analysis of Cuba). These studies were published in 20 folio volumes, 10 quarto, and four octavo. The entire set has been reprinted only once, and most of it has never been translated into English. Few libraries own a complete set of the originals. Every library should own a reprint.

Unlike **Cook** and **Darwin**, **Humboldt** never achieved his ambition of traveling around the world, but in 1829 he traveled widely in Russia and Siberia and so explored much of three continents. From 1845-1861, his lectures summarizing knowledge about the physical world were published as the *Cosmos*, and when he died at age 89 in 1859, he was widely considered the greatest naturalist of all time and the last man able to know everything.

#### **Darwin**

**Charles Darwin** was 22 years old in 1831 when he was asked to serve as a naturalist on a voyage around the world on the *Beagle*, and the voyage lasted from 1832-1836. Four of the five years were spent in South America, and about three-fourths of the text of his diary was devoted to South America. Afterwards, the *Beagle* continued westward, but stopped long enough for **Darwin** to describe and compare the indigenous peoples of Tahiti, New Zealand, Australia, and Tasmania. He was particularly fascinated by the exceptionally primitive culture at Tierra del Fuego, and he rightly concluded that the people there were not significantly different from those he had seen earlier except for an impoverished culture.

The *Beagle* traveled around the world, but by far the greater part of its voyage was spent mapping the east and west coasts of South America, and while the mapping was being done, **Darwin** was usually ashore collecting plants and animals, making notes, and exploring. He made eight principal expeditions on land, four of which were in northern Argentina, one in southern Argentina, and three in Chile. Altogether he traveled more than 1,100 miles on horseback in the southern half of South America (thus complimenting **Humboldt's** travels in the northern half of South America). In addition to American Indians, **Darwin** also made extensive notes on Polynesians and Aborigines.

In his diary, **Darwin** frequently referred to himself as a geologist, and geological observations figure prominently, but he

wrote that he "took much pains in describing carefully & vividly all that I had seen." He noted everything out of the ordinary in his diary and recorded scientific details in separate notebooks. In his diary he recorded more anthropological observations than information about plants, animals, or geology. He loved exploring, collecting, and analyzing his collections. He found the scenery of many places "exceedingly beautiful," and he was annoyed that he could not control his emotions; "...I often ask myself, why can I not calmly enjoy this..." (56). "What can be imagined more exciting than following a great river through a totally unknown country?" (73). "...to my great joy, I found the head of some large animal, embedded in a soft rock" (95). While aboard his "floating prison," "the only thing I have been able to do is reading *Voyages & Travels*: these are now much more interesting than even novels" (74).

**Darwin's** diary of his voyage has been published in three versions that differ significantly from one another. The manuscript version of the diary without his notes contained about 189,000 words, and it was finally published in 1933 (and was reprinted in 1986 and 1987 in the *Works of Charles Darwin* edited by **Paul H. Barrett** and **R. B. Freeman**). The version he prepared to be part of the official account of the expedition had been published a century earlier in 1839, and it omitted about one-third of the original diary, yet was nearly twice as long. **Darwin** added the most interesting scientific notes primarily about geology and zoology that he had recorded in separate notebooks, and he reorganized the information. He spent four months rewriting the official version to make it suitable for a general audience and produced the classic account that was published in 1845. Although the third version of his diary was similar in size to the second, it contained much new information. Each version thus contains much significant information that was omitted from the others, and a variorum edition is needed. A definitive edition would consist of facsimiles of his handwritten journal and notes and of each published version in four columns to facilitate comparison. The classic version that he prepared for the public most deserves to be read as literature, but the original journal is essential for anyone interested in the development of **Darwin's** ideas. Since it was while on the *Beagle* that **Darwin** became even more interested in biology than geology, only **Darwin's** reading notes made after the expedition and his autobiography reveal more about his intellectual development.

What **Darwin** omitted from the initially published versions of his diary are most revealing in that he regularly described his reactions to what he saw, praised and condemned countries and individuals, and recorded his opinions. It is as much autobiography as travel, and much of it was written with the vividness and skill of a novelist. One of the greatest values of the diary is what he wrote about the people he encountered and particularly the primitive peoples. He wrote, for example, about the Fuguians,

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I would not have believed how entire the difference between savage & civilized man is. It is greater than between the wild & domesticated animal.... The only garment was a large guanaco skin with the hair outside. This was merely thrown over their shoulders, one arm & leg being bare; for any exercise they must be absolutely naked. Their very attitudes were abject, & the expression distrustful, surprised & startled.... The wigwam or Fuegian house is in shape like a cock of hay, about 4 feet high & circular; it can only be the work of an hour, being merely formed of a few braches & imperfectly thatched with grass, rushes & c. As shell fish, the chief sources of subsistence, are soon exhausted in any one place, there is a constant necessity for migrating; & hence it comes that these dwellings are so very miserable.... How very little are the habits of such a being superior to those of an animal. By day prowling along the coast & catching without art his prey, & by night sleeping on the bare ground [109, 115, 119].



ILLUSTRATION 4: FUGUIAN MAN

Although he was sure they were the same peoples he had encountered elsewhere, he was unsure whether they were a vestige of an earlier stage of civilization or had degenerated culturally. He began to see why **Linnaeus** had classified man along with other animals, and eventually he found a way to make sense of all the evidence he had found throughout

the world. The remains of Peruvian Indians provided a complete contrast, and **Darwin** admired their "...utensils of elegant forms cut out of the hardest rocks, the tools of Copper and ornaments of the precious metals," their mounds, and their irrigation systems (303).

Like **Humboldt**, **Darwin's** observations extended to the Spanish way of life, and in Uruguay, he recorded details about the operation of a ranch (estancia), its value, and its stock. He was struck by the fact that a herd of 10,000 to 15,000 cattle always divided into small herds of about 40 to 100 animals, and even though all of the cattle came together during storms at night, the next morning they separated into the same small herds that included the same "peculiarly marked animals" and the same number of animals as before (177). In Chile, he met a German naturalist who had collected some caterpillars in order to have perfect butterflies, and when the butterflies appeared, some priests had the governor arrest him for heresy. This same naturalist asked one of the Spanish provincials what he thought of the **King of England's** sending **Darwin** to collect rocks, and he replied, "'no man is so rich as to send persons to pick up such rubbish; I do not like it; if one of us was to go & do such things in England, the King would very soon send us out of the country'" (226). In cities such as Lima, he found greater sophistication: "There is so much hospitality in these countries and the conversation of intelligent people in a new and foreign place cannot fail to be interesting" (301).

At Charles Island in the Galapagos, **Darwin** wrote, "I industriously collected all the animals, plants, insects & reptiles from this Island. It will be very interesting to find from future comparison to what district or 'center of creation' the organized beings of this archipelago must be attached" (307). He was struck by how recently created the volcanic islands of the Galapagos were and how limited were the types or organisms represented, yet how diverse they had become in a relatively short period of time. He was most impressed by the variety of reptiles, and there was no mention of the variety of finches in his original diary. When he got to Tahiti, he noted, "in an island, that vast number of productions which characterize a continent, cannot be expected to occur" (316). The fossils he found in South America and the varieties he found in the Galapagos impressed him most; in a later notebook, he wrote, "these facts [were the] origin (especially [the] latter) of all my views" on the "transmutation of species." He did not know enough about zoology to determine whether he had found many varieties of one species or many separate species, and it was only after the end of the expedition that an ornithologist, **John Gould**, wrongly identified many of the bird skins **Darwin** had brought back as separate species.

Before leaving South America, **Darwin** became interested in the problem of how coral reefs originated, and while at Tahiti, he noted, "little is yet known, in spite of the much that has been written, of the structure and origin of the Coral Islands and reefs" (324). He made observations in an attempt to solve these problems, and at the Southern Keeling or Cocos Island, he had another opportunity to study a reef with a lagoon, and he reasoned that coral had formed around the edge of a volcano that rose above the surface of the water initially, but later had sunk in the center (rather than the coral growing on top of a submerged volcano; 363). After the voyage, he characteristically read everything available on the subject and considered every coral reef to confirm his conclusions.

**Darwin** had left England with certainties and returned with doubts. When he left England, he had recently graduated from **Cambridge University**, where he studied divinity and science, and throughout his travels, he took for granted that the Biblical account of Creation was correct. He credited the missionaries at Tahiti with having abolished human sacrifice, idolatry, infanticide, "dishonesty, intemperance and licentiousness" (323-4). He considered Tahitians happier than Europeans, but **Cook** had found them a great deal happier.

During his travels around the world, **Darwin** repeatedly encountered areas with unusual species, with extinct species, and with surprisingly few species. He wondered why some species were found in so few places and why common species were not found everywhere they could have survived. For example, although New Zealand was nearly the size of Britain, it originally had only one small species of mammal, and nearby Australia had animals that occurred nowhere else in the world (338, 348). The Biblical story of Creation seemed to require that every species would be located everywhere it could flourish, yet some species that had been only recently introduced in places such as Australia had flourished so much that indigenous species were fast becoming extinct. Nonetheless, shortly before the end of the voyage while still in Australia, he concluded "the one hand has surely worked throughout the universe" (348). This was in 1836. By 1845 the second edition of his diary emphasized "the extreme difficulty of explanation on the creationist theory" (editor's note, 398).

**Darwin** returned from his five-year voyage with enough new information to take a lifetime to sort out. He found more in biology to interest him even than in geology, and he was also fascinated by what he had learned about anthropology. At the end of his trip, he reflected on "man in his lowest & most savage state.... could our progenitors be such as these?"

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ILLUSTRATION 5: ABORIGINAL WARRIORS

He wondered if his “pleasure of living in the open air” was “the savage [in him] returning to his wild & native habits. I always look back to our boat cruizes and my land journeys, when through unfrequented countries, with a kind of extreme delight, which no scenes of civilization could create” (388-9). “In conclusion, — it appears to me that nothing can be more improving to a young naturalist, than a journey in distant countries” (390).

While on the voyage, he read **Charles Lyell’s** *Geology*, and later he dedicated the second edition of his *Beagle* diary to **Lyell**. During the voyage, **Darwin** wondered why so few existing species were represented in the geological record. He became persuaded that the development of species and especially of species known only as fossils had taken far longer than the period of recorded history. It was only through his reading and analysis after the voyage that he was able to go further with the evolutionary ideas that had been developed by his grandfather **Erasmus Darwin**, **Jean Baptiste Lamarck**, and others. Since none of these ideas had gained wide acceptance, **Darwin** was doubly reluctant to publish anything similar without sufficient evidence to constitute inductive proof, and he took his time satisfying himself first that he was correct before sharing his thoughts. He had hoped to publish a study more than twice the length of the *Origin of Species* and to include footnotes and evidence relating to domesticated animals, which was later published separately. Altogether, he wrote 19 books, 172 articles, and about 6,000 letters, and he left thousands of pages of research notes and an unpublished autobiography. Like **Humboldt**, he was one of the most productive as well as one of the most influential scientists of all time.

Also like **Humboldt**, **Darwin** had inherited a sufficient income to devote himself completely to studies of biology, and he spent two decades analyzing his finding, reading widely, and experimenting to test and refine his ideas.

He hoped to take even longer when he found that someone else, **Alfred Wallace**, had come to similar conclusions and was ready to publish them. **Darwin** and **Wallace** announced their conclusions jointly, and **Wallace** deferred to **Darwin** to publish his evidence in support of their conclusions.

When **Darwin’s** diary was published, he sent a copy to **Humboldt** and received high praise in return. In 1859, **Humboldt** died on May 6th, and **Darwin’s** *Origin* was published on November 24th. One era ended and another began. **Humboldt** probably was the last man able to know everything, but **Darwin** first made sense of it.



ILLUSTRATION 6: DARWIN’S STUDY

### Conclusion

**Cook**, **Humboldt**, and **Darwin** saw a great deal of the world, were interested in all they saw, and tried to make sense of all they learned. **Cook** was not a scientist, and **Humboldt** and **Darwin** both began primarily as geologists. All three wrote primarily for an educated public rather than for specialists, and all three had immediate, immense, and permanent impact. Their writings show how great minds sought to understand the entire world and how they were able to go beyond others.

**Cook** explored more of the world more systematically and mapped more of it with greater accuracy than anyone ever had. He and the naturalists who accompanied him were the first Europeans to visit Hawaii and the first to write about the Maori in detail. They also recorded invaluable details about the Tahitians and other peoples they resided among for substantial periods of time. **Cook** had few if any theories to contend with, and he was content to make accurate observations on many topics and to summarize his observations coherently.

**Humboldt** prepared detailed summaries of observations, generalized on the basis of specific evidence, made comparisons, and sought connections. He searched for underlying principles for each phenomenon he encountered. He was one of the most widely traveled and best-informed persons who ever lived, and he spent nearly all of his 89 years educating himself. Beginning at age 76, he summarized

all he knew in the *Cosmos*, a five-volume summary of science that took 12 years to complete. It was an achievement that had not been made by any individual since **Aristotle**.

**Darwin** was one of the last European travelers to visit New Zealand and Tahiti before their cultures were virtually destroyed, and his and **Cook’s** accounts a half-century apart make a good comparison (as does **Mark Twain’s** later account of Hawaii with **Cook’s** account on contact). **Darwin** also recorded important information about Indians throughout most of South America as well as elsewhere.

**Cook’s** prose is exemplary. Omitting purely navigational information, **Cook’s** account

as well as **Darwin’s** are major works of English literature that deserve to be ranked among the greatest travel accounts of all time and that should be included along with **Garcilaso’s** account of the **DeSoto** Expedition in any collection of great books. The omission of all travel accounts from consideration as great books is as arbitrary as the omission of all books on anthropology and all of the best illustrated

books such as those on architecture (**Vitruvius** and **Palladio**) and on the visual arts (woodcuts by **Durer** and **Holbein**).

A naval officer and two geologists produced some of the best accounts of indigenous peoples ever written, but all three had a scientific approach to everything they did. All three took advantage of unique opportunities to contribute as much as possible to knowledge. They wrote at a time when well-educated travelers were expected to make a literate record of their observations and when well-educated readers also had wide-ranging interests. None set out with a theory in search of evidence to support it.

In most cases, the earlier the account, the more likely original features of a culture could have been recorded accurately, and this is true regardless of the qualifications of the writer, but particularly true when a great mind sought to comprehend new knowledge. The earliest accounts and particularly the greatest accounts deserve to be studied first and in chronological order when attempting to reconstruct how a culture developed. This is the opposite of the Direct Historical Approach, in which reconstructions work from the present backwards in time, and although that approach works best for archaeology, it works worst for ethnology.

Early records by non-anthropologists who had no theoretical biases are generally more likely to reflect what cultures were actually

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like. They may reflect the biases of their own times, but there was usually no reason to distort what was observed. They may well condemn what was observed, but occasionally adverse comments can be more easily discounted than pervasive theoretical bias. Besides being earlier and less biased, the accounts even of ordinary travelers have the advantage in being more comprehensive and comparable, and taken together, they can be used to confirm one another. The best accounts for students to study are early primary sources that have no theoretical slant.

For the study of the sexual customs of Polynesians, for example, **Cook** and his contemporaries provide a far more reliable basis for generalizations than could have been recorded at any later time. By contrast, **Margaret Mead** provides an example of an anthropologist who went to Polynesia seeking evidence to support a theory, and the theory she sought to support was that culture determines individual behavior. She claimed that Samoan sexual behavior was an example, but **Derek Freeman** later found proof that she had been told what she wanted to hear. One of her principal informants admitted under oath that she and others intentionally misled **Mead**, and earlier researchers had found different results. **Mead** is not the only anthropologist who has relied too fully on too few informants and who did not check her results against earlier findings with sufficient care.

In anthropology, the use of a hypothesis is nearly always unwarranted because it cannot be tested reliably. There are circumstances in which the equivalence of experimental conditions may exist, and the isolation of Polynesian islands is one of them, but the isolation ended quickly. The only reliable approach in anthropology is inductive with conclusions

derived from comprehensive evidence, and conclusions are valid only to the extent that all relevant evidence is made to fit together into a coherent whole. **Darwin** showed best how this could be done, and he began with field work rather than limiting himself to what he learned in the field and to what he could imagine that it might mean.

From 1768-1836 was the golden age of scientific exploration, most notably the explorations of **Cook**, **Humboldt**, and **Darwin**, but also during this period, **Mackenzie** became the first European to cross Canada and **Lewis & Clark** the first Americans to cross the United States. All of these travelers produced classic travel accounts, and all of them wrote extensively about the indigenous peoples they encountered as part of the natural histories of the areas they explored. In most cases, the cultures they recorded were changing so rapidly that no better records could later be made. The challenge now is to interpret the best available information without preconceptions. 🌿

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*Gene Waddell is College Archivist at the College of Charleston and author of **Charleston Architecture, 1670-1860** (Wyrick & Co., 2003). This is the third of a series of three articles about travel accounts and their value for anthropology and as works of literature. The first was "American Life in the 19th Century: Unabridged Travel Accounts by Audubon, Olmsted, and Twain" (ATG, Jun. 2005) and the second "In Indian Territory" (ATG, Nov. 2005). All three articles were based on a lecture given at the **Charleston Library Society** on 17 Feb. 2005. He has written two earlier articles about architecture for ATG. All five articles have emphasized the neglected potential of primary sources for research and teaching and the need to make the best possible versions more widely available.*