

K

KANT, IMMANUEL

Immanuel Kant was born on the 22nd of April, 1724, in Königsberg, Prussia (now Kaliningrad) and he died in the same city on the 12th of February, 1804. He was the fourth of nine children of his parents, Anna Regina, neé Reuter, and Johann Georg Kant, who both belonged to a Pietist branch of the Lutheran Church. When Immanuel Kant was eight, he entered the Pietist school, Friedrichskollegium, and remained there until 1740. As his parents were rather poor, he was dependent on financial support from Franz Albert Schultz (1692–1763), who had realized Kant's immense talent, and who was headmaster of Kant's school, professor of theology, and pupil of the famous German thinker of the Enlightenment, Christian Wolff (1697–1754).

Kant's mother died in 1737 while he was still at school. From 1740 to 1746, the year his father died, Kant attended the University of Königsberg, studying philosophy, mathematics, natural sciences, and theology. After university, Kant earned his income as a private tutor for three families in the area of Königsberg. In 1755, he completed both his doctoral degree (*Meditationum quarundam de igne succincta delineatio*), as well as his habilitation (postdoctoral qualification) thesis (*Principiorum primorum cognitionis metaphysicae nova dilucidatio*).

In autumn 1755, he started to lecture at the University of Königsberg, and he had to finance himself from the fees he received from his students. The first time Kant had a salaried post was in 1766 as a librarian. Later, he was offered various professorships (e.g., Erlangen, Jena), which he turned down. He had to wait until 1770, when he was already forty-six, to become Professor of Logic and Metaphysics at the

University of Königsberg. Eleven years later, Kant's groundbreaking work, *Kritik der reinen Vernunft* (*Critique of Pure Reason*, 1781) was released. Schopenhauer named it the most important book ever written in Europe; however, initial response was not so favorable. As a consequence, he wrote the *Prolegomena zu einer jeden künftigen Metaphysik* which was published in 1783, the same year Kant bought himself a house. In 1785 Kant published the *Grundlegung zur Metaphysik der Sitten*; in 1787 the second edition of the *Kritik der reinen Vernunft*; in 1788, the *Kritik der praktischen Vernunft*; and in 1790, the *Kritik der Urteilskraft*. In 1793, Kant published *Die Religion innerhalb der Grenzen der bloßen Vernunft*, and it was this work that brought him into conflict with state authorities who wished to censor the work. A year later, he even wrote a second treatise on the philosophy of religion, *Das Ende aller Dinge*. As a consequence, he received an official letter accusing him of degrading Christianity and violating his duties as a teacher of youth. Even though he rejected the accusations, he agreed to refrain from writing further works about the philosophy of religion. *Zum ewigen Frieden* (1795), was Kant's first book after his conflict with the authorities, and *Die Metaphysik der Sitten* was released in 1797. In *Anthropologie in pragmatischer Hinsicht* (1798), Kant published further material on the philosophy of religion since Friedrich Wilhelm II, who was mainly responsible for the intolerant political atmosphere, had died. In October 1803, Kant became seriously ill. He died on the 12th of February, 1804.

Reason

Reason is a faculty for gaining knowledge. Kant wrote critiques of aspects of reason in order to find out what can be known. In doing so, he did not condemn



Source: Courtesy of the Library of Congress.

reason, but rather determined its limits and sources. In the end, Kant rejected both empiricism and rationalism as appropriate theories of knowledge. There are purely rational ideas, but only as regulative principles, which means the ideas are connected to empirical data. Kant employed the following distinctions for his investigations: *a priori/a posteriori*; and *analytic/synthetic*. A priori judgments are judgments independent of empirical experiences. A posteriori judgments are judgments founded in empirical experiences. Analytic judgments are judgments in which the predicate is already contained in the subject. Synthetic judgments are judgments in which the predicate is not contained in the subject but provides further information about it.

According to Kant, reason has both a material and a formal aspect. The formal aspect of reason is concerned with laws of thinking irrespective of any object, or general logic. General logic does not have any material aspect, as it solely rests on the necessary laws of thinking, deals with analytic, a priori judgments and is constituted from two aspects: Analytically, by means of which one positively tries to describe what understanding is capable of; and dialectically, by

means of which one tries to rule out what reason is not able to achieve. Reason, in its narrower sense, is the highest source of knowledge, and it brings together whatever has already been structured by means of our understanding to establish the highest unity of thinking. Understanding also belongs to the higher sources of knowledge, but has a common root with sensibility. In addition, it is capable of structuring and linking anything given to it, and of establishing laws.

The material aspect of reason, on the other hand, deals with objects and the laws by which they interact. These laws are either laws of nature or laws of freedom. The science that deals with the laws of nature is called physics, whereas the science which deals with the laws of freedom is referred to as ethics. Both physics and ethics have empirical as well as nonempirical aspects. Whatever is nonempirical is rational and valid a priori, and all areas with which rational investigation is concerned are called types of metaphysics. In contrast to general logic, which deals with analytic, a priori judgments, metaphysics is supposed to help promote knowledge; it deals with synthetic, a priori judgments. However, it is far from obvious whether such judgments are possible. Consequently, Kant asked in his *Kritik der reinen Vernunft*, how are synthetic judgments a priori possible?

In his transcendental *Elementarlehre* (teaching of the main elements) Kant answered his question. His *Elementarlehre* addresses transcendental aesthetics, the transcendental logic wherein one can distinguish the transcendental analytic, and the transcendental dialectic. Aesthetics encloses the realm of the senses; analytic, the realm of understanding; and dialectic, the realm of reason. Within his transcendental aesthetics, Kant articulated that all sense perceptions must be structured within space and time as pure forms of intuition. Within his transcendental analytic, he explained that all thinking must be based upon the categories of, for example, causation. These are two of Kant's most influential insights.

As both physics and ethics have rational aspects, there is a metaphysics of nature (physics deals with laws of nature) and a metaphysics of morals (the nonempirical aspect of ethics is referred to as moral philosophy). Theoretical reason deals with the metaphysics of nature. There is an analytics of pure theoretical reason which progresses from sensual experiences to notions and then to principles. Practical reason

deals with the metaphysics of morals. There is an analytics of practical reason which progresses from the possibility of practical principles a priori to the notion of the objects of practical reason to moral feelings. Analytics is always concerned with notions (both of nature and of freedom) and principles. As a side note, rational investigations concerning the existence of God, the soul, and free will are impossible, according to Kant, as these things are beyond sense perceptions, and if one applies human forms of sensual perception (time and space) and human forms of thinking (e.g., causation) to things which are beyond sensual experience, one is led into contradictions.

Areas of study concerned with the empirical aspect of physics are now referred to as natural sciences. The empirical aspect of ethics is called practical anthropology. In practice, practical anthropology is the empirical investigation into all ethical questions. One must not forget that all laws, finally, are one aspect of reason. The formal aspect of reason deals with the laws of logic, and the material aspect of reason with laws of ethics and physics. One of the early Platonists, Xenokrates was the first to distinguish philosophy into categories of logic, ethics, and physics. This distinction played a vital role for Platonists and Stoics. Kant's ethics owe a lot to Cicero's, who in his final phase held a traditional Stoic position.

Kant distinguished between empirical and rational ethics. Empirical ethics is mostly practical anthropology; rational ethics, or the metaphysics of morals, is a rational investigation of moral law. The central aspect of the moral law is the will, as the will is responsible for one's acts. The will constitutes character, which can be good, evil or holy. Ethics is concerned with the law of freedom, for without the realm of freedom, human choices would be determined solely by drives or natural instincts as all animals are. Since human beings also belong to the realm of freedom or reason, reason decides when to act according to instinct and when to act according to reason. As humans belong to both realms, it is impossible not to be affected by one of them. All humans act sometimes according to reason, and sometimes according to instincts. Whether the will can be referred to as good or evil depends on which aspect is dominant. If a person acts mainly according to reason, then the will is good, if not, then it is evil. The moral law or the law of freedom has to be a law of duty, as individuals always have the inclination to act according to instinct and must force themselves to act according to reason. Once the

inclination to act according to instincts is absent, the will is holy.

An individual acting according to reason bases actions on moral law which can be determined by the categorical imperative whose general formulation is, "Act so that the maxim may be capable of becoming a universal law for all rational beings" (Note: A maxim is the determining motive of the will). Each act that, if taken as a general rule, leads, for example, to the extinction of humanity, or to self-contradiction, does not fulfill the demands of this imperative. It is an imperative, as individuals are not inclined by instinct to act in accord with it. It is categorical, because it is unconditionally valid. Kant also mentions the hypothetical imperative that refers to all conditional connection without the end being a necessary one. If one wishes x, one has to do y, without y being a necessary motive for all rational beings. The moral law encloses the categorical imperative only.

To be able to base one's actions on the moral law, or to be autonomous—which is the same—is the reason for a being to have dignity. All rational beings can base their acts on the moral law, and all human beings are rational. Therefore, all human beings have dignity. In the realm of purposes, every thing either has a price, or dignity. That which has a price does have something that is its equivalent: It can be exchanged for something else. That which has dignity, on the other hand, is beyond all price; therefore, Kantian ethics exclude the possibility of calculations which are basic for a utilitarian. In utilitarianism, it can be justifiable for one person to kill another in order to save the life of a hundred, but Kantian ethics hold the dignity of one person as beyond all price.

As all rational beings have such dignity, one might wonder from what point a human being is rational. Rationality is linked to the capacity for making abstractions, forming concepts, and having a language. One might be tempted to infer that human beings achieve rationality around the age of three; however, Kant asserted that rationality is part of the immortal soul of a human being. Therefore, human beings already are in the possession of rationality before their bodies are able to express that capacity. Around the age of three, the body is able to express that capacity, but human beings are already rational from the time their bodies and souls are united. All these discussions are particularly relevant for the current bioethical debates, as dignity is a fundamental

part of many current constitutions, and Kant's concept of dignity is the most popular one.

—Stefan Lorenz Sorgner

See also **Bioethics and Anthropology**

Further Readings

- Guyer, P. (Ed.). (1992). *The Cambridge companion to Kant*. Cambridge, UK: Cambridge University Press.
- Jacobs, B., & Kain, P. (2003). *Essays on Kant's anthropology*. Cambridge, UK: Cambridge University Press.
- Kant, I. (1900ff). *Gesammelte Schriften* (Koeniglich Preussischen Akademie der Wissenschaften, ed.). Berlin: Akademie-Ausgabe.

KARDINER, ABRAM (1891–1981)

Abram Kardiner was a psychiatrist and pioneering psychoanalyst who made major contributions to psychological and psychoanalytic anthropology as well as to his own professions. He was particularly interested in the psychological adaptation of the ego to war, society, oppression, and culture. Kardiner is best known in anthropology for his concepts of *basic personality structure* and *projective systems*.

Kardiner was born in 1891 in New York City. He received a BA from City College (New York) in 1912, then completed a year of medical school at Cornell University. He entered the PhD program in anthropology at Columbia University, studying under Franz Boas and Alexander Goldenweiser for a year before returning to finish his MD at Cornell in 1914. Kardiner completed his internship and residency in psychiatry in New York City and joined the New York Psychoanalytic Society. In 1921 he went to Vienna for a six-month training analysis with Sigmund Freud, and also took the opportunity to attend lectures by Geza Roheim on psychoanalysis and anthropology. On his return to New York, Kardiner worked for a veterans hospital in the Bronx from 1922–1925, studying victims of “war neuroses” from World War I. He published *The Traumatic Neuroses of War* in 1941 and an updated version, *War Stress and Neurotic*

Illness, in 1947. Kardiner is now credited with defining posttraumatic stress disorder (PTSD).

Kardiner co-founded the New York Psychoanalytic Institute in 1931, the first such training institute in the U.S. In 1933, the director, Sandor Rado, asked Kardiner to develop a course on the application of psychoanalysis to the study of culture. The first session had only two students, but the seminar eventually grew to a hundred and included many distinguished anthropologists. The standard practice was for an anthropologist to describe a culture; Kardiner would then analyze it in terms of his neo-Freudian ego psychology.

Ralph Linton came to Columbia in 1937 to replace Boas as chair of the anthropology department. Linton was introduced to Kardiner by the psychologist Abraham Maslow, who was a participant in the seminar and a former student of Linton. Linton joined the seminar and presented his studies of the Marquesans of the South Pacific and the Tanala and Betsileo of Madagascar for Kardiner's analysis.

Kardiner published his major contribution to anthropology, *The Individual and His Society* in 1939, with Linton as a contributor. This comprehensive, causal theory of the relationship between culture and personality is regarded by some as the seminal work in the “culture and personality” movement that eventually gave rise to the field of psychological anthropology, providing the theoretical basis for much cross-cultural research in the postwar years, beginning with *Child Training and Personality* by Whiting & Child (1953).

Kardiner postulated the existence of a basic personality structure (BPS) personality traits shared by members of a society as a result of common early experiences. This BPS included unconscious conflicts and anxieties that motivated behavior. He divided culture into primary institutions, which generated the BPS, and secondary institutions, which were expressions of the BPS. The primary institutions included older, more stable elements of a culture such as technology, economics, family structure, and child-training practices, while the secondary institutions included religion, ritual, folklore, mythology, taboos, and art. Secondary institutions were based on the psychological process of projection and served to satisfy unmet needs symbolically. Basically, Kardiner posited a congruence between childhood experiences and expressive culture, mediated by the BPS, the same kind of congruity that Freud identified between parents and gods in *The Future of an Illusion*. (need date?)

One problem Kardiner encountered was the availability of cultural, but not psychological data on the societies investigated. Cora DuBois was a postdoctoral student studying with Kardiner in 1936–1937. In 1938, DuBois went to the island of Alor in the Dutch East Indies to conduct ethnographic fieldwork, gathering dreams, autobiographies, word associations, children's drawings, and intelligence and projective tests. DuBois's fieldwork provided a model for culture and personality fieldwork for the next decade or more. Upon her return to New York, DuBois's data were analyzed by Kardiner as well as by two psychologists. Kardiner saw the results as confirmation of his theory of a shared personality. But in her classic ethnography, *The People of Alor* (1944), which included chapters and sections by Kardiner, DuBois replaced the concept of basic personality with *modal personality*, referring to central tendencies in the personalities of members of a society that are not necessarily shared by all.

Kardiner's work was not well received by his colleagues at the Psychoanalytic Institute, and in 1939 he brought the seminar to the Department of Anthropology at Columbia, where it was called "Psychological Analysis of Primitive Cultures." In 1944, Kardiner left the Institute to become a clinical professor of psychiatry at Columbia and the cofounder of what became the Center for Psychoanalytic Training and Research.

In 1945, Kardiner published *The Psychological Frontiers of Society*, a further explication of his BPS theory, with analyses of the Comanche (studied by Linton), the Alorese (studied by DuBois), and Plainville, a small town in the Missouri Ozarks (studied by James West, a pseudonym for Carl Withers).

During World War II, Margaret Mead, Ruth Benedict, and others turned their attention to the psychology of the British, the Japanese, and other modern peoples, beginning the study of "national character," which Kardiner found superficial. After the war, Linton left Columbia, and Kardiner moved his seminar to the sociology department.

Kardiner sought to demonstrate the applicability of his BPS theory to modern, complex American society with the publication in 1951 of *The Mark of Oppression: A Psychological Study of the American Negro*, written with Lionel Ovesey. This study involved four years of intensive research with 25 individuals, and it identified common personality dynamics that

African Americans had developed, according to Kardiner, to cope with discrimination.

In 1954, inspired by the Kinsey Report, Kardiner wrote *Sex and Morality* with Edward Preble. He returned to the subject of anthropology in 1961 with *They Studied Man*, a study of the beginnings of cultural anthropology that focused on the lives of ten scholars and the ethos of the times. His last book was *My Analysis with Freud: Reminiscences*, in 1977. Kardiner died in 1981 at the age of 90.

—William Wedenoja

Further Readings

- Kardiner, A., & Linton, R. (1939). *The individual and his society: The psychodynamics of primitive social organization*. New York: Columbia University Press.
- Kardiner, A., Linton, R., DuBois, C., & West, J. (1945). *The psychological frontiers of society*. New York: Columbia University Press.
- Manson, W. C. (1986). Abram Kardiner and the neo-Freudian alternative in culture and personality. In G. W. Stocking (Ed.), *Malinowski, Rivers, Benedict and others* (pp. 72–94). Madison: University of Wisconsin Press.
- Manson, W. C. (1988). *The psychodynamics of culture: Abram Kardiner and neo-Freudian anthropology*. New York: Greenwood Press.

KEITH, SIR ARTHUR (1866–1955)

During his era, Sir Arthur Keith was one of the world's most prominent anatomists and defenders of Darwinism. As Keith himself noted in his autobiography, he seemed fated to espouse causes and theories that fail to carry conviction, a notion that became even more accurate than he realized when he wrote it in 1947.

Arthur Keith was born on February 5, 1866, in Old Machar in Aberdeenshire, Scotland. His father was John Keith and his mother, Jessie, was from the Macpherson family, also from Aberdeenshire. The family was sufficiently prosperous for Arthur to receive a good education at Gordon's College and Marishal College at Aberdeen University, where he graduated with first-class honors in 1888. Keith did

postgraduate study at Leipzig before spending three years in Thailand, officially on business for a rubber company, but also to collect botanical specimens for Kew. While in Thailand, Keith studied the musculature of the native monkeys; his thoroughly documented work earned him a medical degree in Aberdeen, as well as the Struthers anatomy medal in 1894, and remained influential for decades to come. During this period, Keith also did groundbreaking research in malformations of the heart.

From 1895 until 1908 Keith taught anatomy at London Hospital Medical College. He was a popular and effective teacher, and he wrote what became the standard textbook for the subject, *Human Embryology and Morphology* (1898), released in six editions. In 1908 Keith moved on to the important post of Conservator of the Hunterian Museum of the Royal College of Surgeons, a position he held until he retired in 1933. At the Hunterian, he set himself the task of reviving the scientific element of the College's program, both by his own lecturing and publishing, and by his ability to attract respected colleagues to associate with the College. He also attracted some major anatomical collections.

During his tenure at the College, Keith turned his attention away from anatomy to broader issues surrounding human evolution, in particular the question of the origin of different races. Keith achieved international prominence through championing the greatest of his lost causes, Piltdown Man. While not in a position to have originated the hoax himself, Keith did become one of Piltdown Man's most important advocates. In *The Antiquity of Man*, published first in 1915 and followed by seven impressions (two of them revised editions) Keith argued the case for Piltdown Man. He recognized fully the problems raised by the human-like skull and the simian mandible, as well as the difficulty in finding credible material of that age at the Piltdown site. But each problem was confronted honestly, relevant evidence was brought to light, and solutions were found. Keith was convinced not only that Piltdown Man was genuine, but also that he represented a common ancestor to *Homo sapiens* and Neandertal, which could be traced to the Pliocene. The only question Keith did not ask was whether the Piltdown findings were a hoax. Keith knew all the main players in the Piltdown affair and respected the professional integrity of each of them, even if his relations with Grafton Elliot Smith were strained.

Keith's last major contribution to anatomy was his work during World War I on the treatment of soldiers' wounds. His work in this area was published in 1919 as *Memoirs of the Maimed*, and it was reprinted in 1952.

As Keith approached retirement, he masterminded his last major project. Working with influential friends, Keith oversaw the creation of the Buckston Browne Research Farm at Downe, the village in Kent where Charles Darwin spent the greater part of his life. Keith and Browne (1850–1945) were also instrumental in converting Darwin's house at Downe into a museum. When Keith retired from the Royal College of Surgeons in 1933, he and his wife moved to Downe, taking over management of the research farm and writing. (PD: Unclear whether meaning is "managing research and writing" or managing research, and writing as separate.)

Much of Keith's writing during the second half of his life was concerned with popularizing evolution for nonspecialist readers. In this he had the enthusiastic support of his friend Charles Albert Watts (1858–1946), founder of Watts & Co. publishers and chairman of the Rationalist Press Association (RPA). Keith had been brought up a Christian, but his science training slowly eroded those beliefs. By 1925 when he first spoke publicly on religious issues, Keith was a naturalist and an agnostic. He became an Honorary Associate of the RPA in 1923 and was active in the organization for the rest of his life. When Watts & Co. decided to publish a series of works of popular science called the Forum Series in 1926, Keith supplied four titles, more than any other contributor: *Concerning Man's Origin* (1928), which included Keith's 1927 presidential address to the British Association; *Darwinism and What It Implies* (1928); *The Construction of Man's Family Tree* (1934); and *Darwinism and Its Critics* (1935).

Keith was a regular contributor to the *Literary Guide* (the RPA journal), and all of the books written during the last three decades of his life were published by Watts & Co. The major titles included *A New Theory of Human Evolution* (1948), *Autobiography* (1950), and *Darwin Revalued* (1955). *A New Theory of Human Evolution* featured another of Keith's lost causes: the so-called amity–enmity principle of race competition as a feature of human evolution. Not surprisingly, the *New Theory* was reviewed positively in South Africa, but the irony was that Keith was not a white supremacist. While stressing the differences of

the races, he never spoke in terms of superiority or inferiority. Keith dismissed white supremacy as “self flattery.” The amity–enmity principle can be traced to his 1930 Rectoral Address at Aberdeen University when he spoke of war as nature’s pruning hook. But once again, Keith was neither a Lamarckian, nor a Social Darwinist, at least not in the cruder sense of the term.

—Bill Cooke

See also **Hoaxes in Anthropology**

Further Readings

- Cooke, B. (2004). *The gathering of infidels: A hundred years of the Rationalist Press Association*. Amherst, NY: Prometheus Books.
- Haddon, A. C. (1934). *History of anthropology*. London: Watts & Co.
- Keith, A. (1929 [1915]). *The antiquity of man*. London: Williams & Norgate.
- Keith, A. (1948). *Autobiography*. London: Watts & Co.
- Stocking, G. W. (1995). *After Tylor: British social anthropology, 1888–1951*. Madison: University of Wisconsin Press.

KENNEWICK MAN

On July 28, 1996, the random discovery of a skull on the banks of the Columbia River near Kennewick, Washington changed the climate of archaeology. Discovered by two teenagers and initially examined by James Chatters, forensic anthropologist, this skull had many characteristics indicating its Caucasian origin. Characteristics of the skull’s teeth, however, suggested an extremely old specimen (around 5,000 years). Finding bones with Caucasian characteristics is not an unusual occurrence; however, potential dating of the bones to precontact times is certainly uncommon in North America. This incongruity became more pronounced after the recovery and examination of the remaining skeletal elements.

The analysis of the almost-complete skeleton suggested that the bones belonged to a 40- to 50-year-old male with Caucasoid features who was approximately 5 feet, 9 inches tall and had sustained injuries throughout his life. In his right pelvis was embedded

a projectile point resembling those manufactured and used by the people who inhabited the Columbia Plateau between 4,500 and 9,000 years ago. This puzzle became increasingly difficult for Chatters to solve; as a result, he decided to send a small piece of bone for radiocarbon dating in order to get a better sense of the age of the skeleton. The results of the radiocarbon dating came as a shock, making “Kennewick Man” one of the oldest skeletons in North America and beginning a seemingly never-ending battle over the specimen.

Because Kennewick Man was discovered on a portion of the Columbia River that is federal land maintained by the United States Army Corps of Engineers, the Native American Graves Protection and Repatriation Act (NAGPRA) came into play. NAGPRA was signed into law in 1990; it essentially states that if human remains are found on federal lands and their cultural affiliation can be established, those remains and associated grave goods must be returned to the affiliated tribe. The same portion of the Columbia River is also considered to be part of traditional homeland by the Umatilla tribe, as well as several other tribes in the area. As a result, by September of 1996, five tribes (Umatilla, Yakama, Nez Perce, Colville, and Wanapum) had jointly made a formal claim to the Kennewick Man skeletal remains. At this point, scientific study of the skeleton was halted. The Army Corps of Engineers took possession of the skeleton and announced intended repatriation of the bones to the alliance of tribes.

In October of 1996, eight well-known scientists sued to gain access to the Kennewick Man remains. Citing civil rights violations, a lack of due process, and the lack of definitive affiliation with any single Native American tribe (especially given the presence of several traits more consistent with Europeans), these scientists argued the necessity of studying the skeleton in order to determine ancestry and to allow the entire American public access to knowledge about its past. For the Native American tribes, Kennewick Man represented an ancestor, whose bones are sacred and who deserved reburial; for archaeologists, the skeleton represented a piece of potentially significant information in ongoing research on the peopling of the North American continent.

Several theories exist regarding the peopling of the New World. Evidence places humans in the New World 12,000 years ago. One popular theory posits humans coming across the Bering Strait into Alaska and journeying south through an ice-free corridor into the Plains area of North America. Recently, sites



Source: © Tri-City Herald, photo by Andre Ranieri.

and artifacts dating to earlier than 12,000 years have been discovered in eastern North America and in South America. This new evidence suggests the possibility of several different migrations of humans into the New World, potentially from parts of the world other than northern Asia and possibly earlier than researchers have previously assumed. Skeletal remains from these very early periods are rare; the completeness and ancient date of the skeleton make Kennewick Man a potentially important clue to increasing our knowledge about the earlier inhabitants of the North American continent.

For almost eight years, the battle continued over Kennewick Man. Before any ruling was entertained, Justice John Jelderks, Justice Magistrate of the United States District Court in Portland, Oregon, ordered the study of the skeleton to determine cultural affiliation. In October of 1999, the cultural affiliation report indicated that Kennewick Man was not similar morphologically to modern Native Americans or as close to European Americans as was initially presumed; rather, Kennewick Man most closely resembled populations from southern Asia, specifically, groups of Polynesia and the Ainu of Japan.

Multiple reports assessing cultural affiliation, coupled with extensive testimony, led to a ruling in

August, 2002, stating that scientists should be allowed access to the skeletal remains, and that the remains were not to be repatriated. Jelderks argued that in order for present-day tribes to claim skeletal remains or associated funerary objects, they must be able to establish a direct relationship with the skeletal remains. Jelderks argued that no such relationship was established for Kennewick Man and the tribes requesting repatriation of the remains. By the end of October, 2002, the tribes and the federal government had appealed the ruling of Justice Jelderks and, in the early part of the following year, the 9th U.S. Circuit Court of Appeals blocked the study of the skeletal remains pending their final decision.

In 2004, the battle seemingly came to an end when the 9th U.S. Circuit Court of Appeals upheld the decision made by Judge Jelderks in 2002. The ruling noted that a relationship between Kennewick Man and the tribes involved in the case was not adequately established. The ruling further indicated that the language of NAGPRA requires human skeletal remains to bear a relationship to a present-day tribe or culture; it also emphasized that the purpose of NAGPRA would not be served if the law ensured repatriation of remains to Native American groups without an established relationship to those remains. A proposed rehearing was rejected and the federal government declined to appeal the decision further.

While the Kennewick Man case appears to have been closed, it unearthed several deep-rooted issues. In *Skull Wars: Kennewick Man, Archaeology, and the Battle for Native American Identity*, David Thomas explains, “The multicultural tug-of-war over Kennewick Man raises deep questions about how we can make the past serve the diverse purposes of the present, Indians as well as white. It also challenges us to define when ancient bones stop being tribal and simply become human.”

— Caryn M. Berg

Further Readings

- Benedict, J. (2003). *No bone unturned: The adventures of a top Smithsonian forensic scientist and the legal battle for America's oldest skeletons*. New York: HarperCollins.
- Chatters, J. C. (2000). The recovery and first analysis of an early Holocene human skeleton from Kennewick, Washington. *American Antiquity*, 65, 291–316.

Chatters, J. C. (2001). *Ancient encounters: Kennewick Man and the first Americans*. New York: Simon & Schuster.

Downey, R. (2000). *The riddle of the bones: Politics, science, and the story of Kennewick Man*. New York: Copernicus.

McManamon, F. P. (2004). Kennewick Man. Retrieved (month/day, 2005, from <http://www.cr.nps.gov/aad/kennewick/>

Thomas, D. H. (2000). *Skull wars: Kennewick Man, archaeology, and the battle for Native American identity*. New York: Basic Books.

KENYANTHROPUS PLATYOPS

One of a rash of new extinct hominid genera discovered and described during the turn of the 21st century, *Kenyanthropus* immediately garnered substantial press coverage and an onslaught of criticism after its naming in 2001. Characterized by its describers as a distinct genus that suggested a more complex early evolutionary history of the human lineage, this taxon was later dismissed by other researchers as either belonging to *Australopithecus* or *Homo*. Regardless of their taxonomic placement, the specimens described as *Kenyanthropus* exhibit a mosaic of primitive and derived characters that may help elucidate the characteristics, habits, and environments of human ancestors.

Kenyanthropus was described in 2001 by Meave G. Leakey, Fred Spoor, Frank H. Brown, Patrick N. Gathogo, Christopher Kiarie, Louise N. Leakey, and Ian McDougall. Fossils belonging to the type species *Kenyanthropus platyops* were discovered at the Lomekwi Site in Kenya, on the western side of Lake Turkana, during a series of expeditions from 1998–1999. Over 30 hominid fossils were uncovered during the field sessions, two of which were described as *K. platyops*. These specimens were found in the Pliocene Nachukui Formation, indirectly radiometrically dated as 3.5 million years old. The holotype, discovered by Justus Erus in August 1999 and denoted as KNM-WT 40000, is a largely complete, yet heavily distorted cranium lacking most of the cranial base and the premolar and anterior tooth crowns. The paratype, KNM-WT 38350, is a partial left maxilla found by B. Onyango in August 1998.

Leakey and co-authors recognized that the overall size of the holotype fell within the size range of *Australopithecus afarensis* and *A. africanus*, but erected a new genus based on the cranium's mosaic of primitive and derived characters. These derived characters include a flat face, a condition known as orthognath; a tall cheek region; and small molars. Of these characters, the orthognathic facial morphology of *Kenyanthropus* is most unique. While other extinct hominids, including *Paranthropus*, possess such a morphology, only in *Kenyanthropus* is an orthognathic face associated with small molars. In addition, *Kenyanthropus* shows the earliest evidence of orthognath in the hominid fossil record. Despite these advanced features, *Kenyanthropus* also displays many primitive traits shared with australopithecines, including flat nasal margins and a small brain that compares in size with those of chimpanzees. Interestingly, *Kenyanthropus* shares many characters with *Homo rudolfensis*, including the lack of a depression behind the brow ridge and a flat plane beneath the nose bone. These characters may indicate that *Kenyanthropus* is a close relative, possibly an ancestor, of modern humans, and has led to the suggestion that *H. rudolfensis* be transferred to the genus *Kenyanthropus* (as *K. rudolfensis*).

Aside from providing important anatomical information, the discovery of *Kenyanthropus* added to the diversity of the eastern African hominid record of 3–4 million years ago, which had previously been represented solely by *A. afarensis* and *A. anamensis*. Additionally, the unique combination of derived and primitive characteristics indicated that *Kenyanthropus* had evolved a specific diet, and pointed to a diet-driven radiation early in the history of the human lineage. Based on this evidence, Leakey and her co-authors argued that human evolution didn't follow a well-defined path, with a continuum of species leading to *Homo sapiens*, but instead took the form of a "bush," with many unique species branching off at various points. Coupled with the discovery of other genera announced at roughly the same time, such as *Orrorin*, *Sahelanthropus*, and *Ardipithecus*, this interpretation of *Kenyanthropus* and its implications for human evolution diverged sharply from traditional views that advocated a "straight-line" path to modern humans.

However, other researchers have disagreed with the views of Leakey and her co-workers. Paleoanthropologist Tim White argued that the holotype cranium of

Kenyanthropus was too distorted to allow proper comparison to other hominid fossils. He noted that a geological process called Expanding Matrix Distortion (EMD) heavily damaged the cranium and resulted in its breaking into some 4,000 separate pieces. Since EMD doesn't enlarge or distort all dimensions equally, it commonly leads to an indecipherable complex of deformation that is often impossible to correct for, thus making precise identification tenuous. Since comparison to other fossils is made difficult by EMD, White argued that it is impossible to differentiate *Kenyanthropus* from the contemporaneous *A. afarensis* and *A. anamensis*, especially considering the known cranial variation in modern apes and humans. As a result, he opted for a conservative taxonomy that sunk *Kenyanthropus* into *Australopithecus*.

Camilo J. Cela-Conde and Francisco J. Ayala have suggested a different placement for *Kenyanthropus*. Unlike White, they recognized the distinct features of *Kenyanthropus* as real, and not a product of deformation. However, they contended that the similarities between *Kenyanthropus* and *Homo rudolfensis*, including smaller molars and thinner tooth enamel, were indicative of a close phylogenetic relationship. Therefore, they advocated that *Kenyanthropus* be included in the genus *Homo*, likely as its earliest known species. Their proposal placed the appearance of *Homo* at 3.5 million years ago.

Regardless of the uncertain taxonomic placement of *Kenyanthropus*, the discovery of the holotype and paratype, along with representatives of their associated flora and fauna, are revealing new insights regarding the environments and life strategies of human forebearers. Geological evidence preserved at the Lomekwi Site indicates that the area was wet and heavily vegetated during the time of *Kenyanthropus*. The discovery of certain bovid fossils suggests a mosaic of woodland and forest habitats, which argues against the common hypothesis that much of human evolution was driven by a sudden environmental shift between forests and savannas. Additionally, the paleoenvironment of the Lomekwi Site is similar to the few known hominid sites of similar age, including Laetoli in Tanzania, Hadar in Ethiopia, and Bahr el Ghazal in Chad.

While only a preliminary description of its bones has been published, *Kenyanthropus* is regarded as being among the most intriguing and informative of a handful of new hominid genera described during the close of the 20th century and the dawn of the 21st.

Although some arguments remain over the validity of these new taxa, their discoveries are proof that much about human evolution remains to be discovered.

—Stephen L. Brusatte

See also **Leakey, Meave Epps**

Further Readings

- Cela-Conde, C. J., & Ayala, F. J. (2003). Genera of the human lineage. *Proceedings of the National Academy of Sciences*, 100, 7684–7689.
- Leakey, M. G., Spoor, F., Brown, F. H., Gathogo, P. N., Kiarie, C., Leakey, L. N., & McDougall, I. (2001). New *Hominin* genus from Eastern Africa shows diverse middle pliocene lineages. *Nature*, 310, 433–440.
- White, T. (2003). Early hominids—diversity or distortion? *Science*, 299, 1994–1997.

KENYAPITHECUS WICKERI

Long recognized as an important genus for understanding the ancestry of great apes and humans, *Kenyapithecus* has been the subject of fierce taxonomic debate since its original discovery by noted paleoanthropologist Louis Leakey in 1961. Once seen as a direct ancestor of modern humans, *Kenyapithecus* is currently viewed as lying close to the origin of the great ape-human clade; however, controversy over the taxonomy and phylogeny of this genus continues, with researchers commonly arguing over the proper relationships of the two included species, *K. wickeri* and *K. africanus*.

Although fossils of *Kenyapithecus* are limited to isolated teeth, facial material, and other fragmentary bones, this primate is recognized as the most common large-sized hominoid known from the Middle Miocene of Eastern Africa. Louis Leakey discovered the first remains of this genus in 1961 when he excavated an upper jaw and isolated teeth from the 14-million-year-old sediments of Fort Ternan in western Kenya. One year later he described these specimens as *Kenyapithecus wickeri*, which he reconstructed as an early direct ancestor of man. In 1967 Leakey named a second species, *K. africanus*, which he based on fragmentary teeth and jaw material found at Maboko

Island in Lake Victoria, 100 kilometers from the Fort Ternan site.

The discovery and description of both *Kenyapithecus* species drew the attention of the paleoanthropological community, and several additional excavations were launched in western Kenya in hopes of finding new material. These excavations recovered numerous important new specimens, many of which proved controversial. In the years immediately following Leakey's early descriptions, it was commonly argued that *Kenyapithecus* was identical to *Ramapithecus*. While this view has fallen out of favor, few modern researchers support the validity of *K. africanus*. Based largely on the discovery of a nearly complete skeleton unearthed in the Tugen Hills in 1993, a team of scientists led by Steve Ward has advocated the transfer of *K. africanus* to its own genus, *Equatorius*; however, this proposal has also garnered debate, as other researchers have argued for a link between *K. africanus* and *Griphopithecus*. This taxonomic debate has yet to be settled, but regardless of the arguments, most researchers view *Kenyapithecus wickeri* as lying close to the origin of the great ape-human clade, and *Equatorius* (*K. africanus*) as a more primitive form.

Much of the aforementioned taxonomic debate can be blamed on the fragmentary nature of the known *Kenyapithecus* fossils, which are mostly limited to teeth and facial bones. Postcranial remains, which are often most phylogenetically informative, are poorly known; hence much about the anatomy and habits of *Kenyapithecus* are questionable. Based on the limited material, however, *Kenyapithecus* is known to have been a large, sexually dimorphic hominoid characterized by a robust lower jaw and thickly enameled teeth. These dental features have suggested to some researchers that *Kenyapithecus* fed on hard or abrasive foods such as nuts and coarse fruits.

Substantially more anatomical information is known for *Equatorius* (*K. africanus*). Based on the 1993 skeleton, which at the time of its discovery was the first Middle Miocene hominoid fossil preserved with associated teeth and postcranial remains, Ward and his coworkers have determined that *Equatorius* is more primitive than *K. wickeri*. Additionally, they have suggested that *Equatorius* was semiterrestrial, and thus the earliest known ape to occasionally leave the treetops for the ground. This transition, which was later paralleled in the immediate ancestors of humans, occurred about 15 million years ago when

the rain forests of Africa were gradually replaced by open woodland. This environmental change may also explain the specialized diet of *K. wickeri*, which lived about one million years after *Equatorius*.

Fossils of *Kenyapithecus* and *Equatorius* have also been used as key evidence to support the controversial "Return from Eurasia" hypothesis which posits that hominoids went extinct in Africa during the Early-Middle Miocene while simultaneously diversifying in Eurasia. Later, during the Middle-Late Miocene, these Eurasian hominoids, which included the direct ancestors of the great ape-human clade, returned to Africa, where they subsequently evolved into modern great apes and humans. The ages of *Kenyapithecus* and *Equatorius*, along with their similarities to taxa known from Europe and Asia and the dearth of hominoids from the Middle-Late Miocene in Africa, have been used to support this hypothesis. Other researchers have argued that this scarcity of hominoid fossils is the result of an imperfect fossil record, and that the dating techniques used by the proponents of the reentry hypothesis are imprecise. Ward and his colleagues argue against this hypothesis, but do support a linkage between *K. wickeri* and a currently unnamed species known from the Middle Miocene site of Paşalar, Turkey. This connection, which is manifested by similarities in canine and incisor morphology, represents the earliest known link between African and Eurasian Miocene large hominoids; however, Ward and his colleagues view this linkage as indicative of an African–Eurasian migratory relationship, not a full-scale extinction and reentry event.

The fossil record of African Middle-Late Miocene hominoids has long been recognized as representing a transition from species retaining primitive characteristics to more derived forms, including several species close to the origin of the speciose great ape-human clade. Although it was originally described as a hominid closely related and perhaps directly ancestral to humans, *Kenyapithecus* is now viewed as either a primitive member of the great ape-human clade or a genus lying immediately outside it. Largely due to the dearth of fossil material, *Kenyapithecus* jumps around many modern cladograms, but paleoanthropologists recognize this controversial genus as important for understanding the early evolution of many human characteristics.

— Stephen L. Brusatte

Further Readings

- Leakey, L. S. B. (1962). A new lower Pliocene fossil primate from Kenya. *Annals of the Magazine of Natural History (Series 13)*, 4, 689–696.
- Ward, S., Brown, B., Hill, A., Kelley, J., & Downs, W. (1999). Equatorius: A new hominoid genus from the Middle Miocene of Kenya. *Science*, 285, 1382–1386.
- Ward, S. C., & Duren, D. L. (2002). Middle and Late Miocene African hominoids. In W. C. Hartwig (Ed.), *The primate fossil record* (pp. 385–397). Cambridge, UK: Cambridge University Press.


KETTLEWELL, H. B. D. (1907–1979)

Henry Bernard Davis Kettlewell, MD, an outstanding physician, lepidopterist and geneticist, is best known for his work on industrial melanism that so elegantly illustrates evolution in action it is now a feature of almost all basic biological texts. Kettlewell was also an energetic field researcher and co-founder of the significant Rothschild-Cockayne-Kettlewell Lepidoptera Collection in the British Museum.

Kettlewell was born on February 24, 1907 in Howden, Yorkshire, UK. He was a schoolboy at Charterhouse, trained in medicine and zoology at Gonville & Caius College, Cambridge, and then was a postgraduate clinical trainee at St. Bartholomew's Hospital, London. He later practiced general medicine as well as anesthesiology before service at Woking War Hospital. In 1949, he immigrated to the University of Cape Town, where he initiated research and from which he took expeditions to the Kalahari, Knysna Forest, Congo, and Mozambique. In 1952 he repatriated as a Nuffield Research Fellow in Genetics and Zoology at Oxford. In 1958 he led an expedition to Brazil marking the centennial of Darwin's *Origin of the species*. From 1965 on, he was a Fellow of Iffley (now Wolfson) College, Oxford. Kettlewell died in 1979 of an accidental overdose.

In Britain prior to the industrial revolution, *Biston betularia* was a common moth of which a light-colored *typica* form predominated. A new, dark-colored phenotype—*Biston betularia carbonaria*—was first reported in 1848; remarkably, by 1895, this novel

type comprised 98% of populations near Manchester. Such dramatic increase in *carbonaria* subspecies caused many to deduce that this was due to deposition of black coal soot throughout the landscape, notably on tree bark.

Manifestly, *carbonaria* is easiest to see against a light background but nigh invisible on a dark background; the reverse is true of *typica*. Indeed, *typica* was more commonly seen in the country, whereas *carbonaria* was more commonly seen in besooted urban areas. Moreover, with the advent of modern, antipollution practices, there has been a marked decline in environmental soot and, simultaneously, a sharply reduced frequency of *carbonaria*. In fact, some lepidopterists worry *carbonaria* will soon be extinct.

For decades it was widely assumed that the rise and decline of *carbonaria* evidenced evolution in action; however, Kettlewell, seeking empirical proof, embarked on his classic research in the 1950s. His results confirmed the hypothesis that camouflage congruent with the usual landscape surfaces on which the moths often alit was an essential driving force via natural selection. In 1998, geneticist Michael E. N. Majerus of the University of Cambridge reviewed the original studies of melanism by Kettlewell and others. Majerus endorsed Kettlewell's basic finding that phenotype color directly affected differential moth survival. Majerus also reported that many experiments—including some of Kettlewell's—were either not rigorous enough or not properly designed. For example, one main study compared predation of moths congruent and noncongruent with tree trunk bark coloration, but the moths do not often perch on tree trunks. Likewise, control for both the ultraviolet visual acuity of predator birds and the effects of migration was not adequate. Unfortunately, Majerus's review has been much misconstrued—sometimes rather polemically—by nonspecialists and creationists among others. Kettlewell's work remains a paragon of excellent field study.

— Daniel R. Wilson

See also **Melanin**

Further Readings

- Kettlewell, H. B. D. (1952). Use of radioactive tracer in the study of insect populations (Lepidoptera). *Nature*, 170, 584–586.

- Kettlewell, H. B. D. (1956). A résumé of investigations on the evolution of melanism in the Lepidoptera. *Proceedings. Royal Society of London. (Series B). Biological Sciences*, 145, 297–303.
- Majerus, M. E. N. (1998). *Melanism: Evolution in action*. New York: Oxford University Press.



KIBBUTZ

Kibbutz (plural: kibbutzim) is the Hebrew word for communal settlement, and it refers to a particular type of rural community in Israel. The basic principles on which the kibbutz is based are joint ownership of property, social and economic collectivism, cooperation in production, direct democracy, egalitarianism in work, and voluntarism. While initially agriculturally based, most kibbutzim have expanded into small industries as well (e.g., metal work, plastics, processed foods). Some have also expanded into tourism and recreational facilities. Many kibbutzim run study courses for the integration of new immigrants to Israel, focusing on intensive Hebrew language instruction, lectures on Israeli culture, and tours of the country. Although each kibbutz is an independent entity, national federations have formed to coordinate activities and facilitate cooperation between kibbutzim.

The first kibbutz was founded at Deganya, Israel, in 1910, primarily by Russian immigrants. There are fewer than 300 kibbutzim, with most formed prior to Israeli statehood in 1948. Kibbutzim range in size from about 40 members to over 1,000; however, most have between 300 and 400 members. In total, the kibbutz population is approximately 130,000, about 2.5% of Israel's population. Although early kibbutz founders were largely secular, ideological supporters of socialism and Zionism, religious kibbutzim began to appear in the 1930s. Most kibbutzim belong to one of three major movements, each with a distinctive ideology, although these distinctions have become blurrier in recent decades. The United Kibbutz Movement, usually referred to by its Hebrew acronym TAKAM, comprises approximately 60% of the total kibbutz population. Kibbutz Artzi, which recently decided to merge with TAKAM, includes over 30% of the kibbutz membership. The third

major movement, Kibbutz Dati, is composed primarily of religious kibbutzim.

Currently, the kibbutz movement is confronting what some observers characterize as a demographic crisis. Younger generations are leaving the kibbutzim, and the average age of the population is increasing. This demographic shift has prompted several adaptations in kibbutz living; for example, many kibbutzim are relying increasingly on paid workers for factories, agricultural tasks, and tourism services. Others are intensifying efforts to expand work exchange efforts, bringing in volunteers from within Israel and abroad. Despite the initial ideological commitments of the early kibbutzim to collective and egalitarian production, almost two thirds of the kibbutzim workforce is now comprised of hired workers. An additional strategy taken up by some kibbutzim as a way of coping with recent demographic shifts is the rental of housing to nonkibbutz members. Some kibbutzim have even built neighborhoods specifically for nonmembers. These shifts have contributed to the blurring of the line between the kibbutz as a social and economic entity and the kibbutz as a geographical/ municipal unit.

Kibbutz members also have more opportunity now for individual choices in higher education, the arts and literature, vacation time, and so on than was the case in the early days of the movement. This is possible in part because of shifts in the distribution of resources within the kibbutzim, in which more money is allocated to personal budgets than had been the case previously. Additionally, many kibbutzim now allow free choice of workplace, resulting in increasing numbers of kibbutz members working away from the kibbutz. These economic changes have resulted in increased hierarchy within the kibbutz, which is also reflected in shifts from political systems of direct democracy to representative democracy. These shifts have contributed to increased income inequality both within and between kibbutzim.

Changes in kibbutz life are also occurring in gender relations and the organization of family life. Ideologically, women are equal participants in the labor force, with all jobs open to them. In practice, most women work in education, health care, and other service positions, although in the earlier days of the movement women worked in agriculture. In contrast to early kibbutz practices that were designed to relieve women from domestic chores, today more women are seeking release time from communal kibbutz responsibilities in order to spend more time

at home raising their children. Although meals still tend to be eaten communally rather than in individual homes, the nuclear family structure has grown increasingly prevalent in kibbutzim. In contrast to early collective kibbutz housing, which reflected the movement's ideological rejection of the "ownership" of children, private homes with children raised by their parents rather than in communal children's houses have grown increasingly common.

Various commentators have been ringing the death knell for the kibbutz movement almost since its inception; nevertheless, it has continued to survive. The major challenge facing the kibbutz movement today is how to maintain the ideals associated with its communitarian history while adapting to current demographic and economic challenges.

— Marianne Cutler

Further Readings

- Ben Rafael, E. (1997). *Crisis and transformation: The kibbutz at century's end*. Albany: State University of New York Press.
- Gavron, D. (2000). *The kibbutz: Awakening from utopia*. Lanham, MD: Rowman & Littlefield.
- Rosner, M., Ben David, I., Avnat, A., Cohen, N., & Leviatan, U. (1990). *The second generation: Continuity and change in the kibbutz*. Westport, CT: Greenwood.

KING, DR. MARTIN LUTHER, JR. (1929–1968)

Dr. Martin Luther King, Jr. was born in Atlanta, Georgia, on January 15, 1929 in an area that, today, is a national historical site. His father was a minister and a prominent member of the community who served as a pastor at a nearby church. During King's early days as a child, his parents attempted to shield him from some of the racial segregation policies characteristic of the time; however, racism permeated the atmosphere of his environment. A segregated society was a way of life that was even legalized by the United States Supreme Court in the famous case of *Plessy v. Ferguson* (1896), which established the important segregationist doctrine of "separate but equal." Even after this doctrine was later repudiated by the



Source: Courtesy, Wikipedia.

Supreme Court in the momentous case of *Brown v. Board of Education* (1954), there was much to work for in terms of social justice.

In some ways King was fortunate. He came from a prominent family and had the opportunity to receive a fine education. In 1948, he received his bachelor's degree in sociology from Morehouse College, a prominent African-American institution located in Atlanta. Later he received his PhD from Boston University. King married Coretta Scott, and together they had four children. Coretta Scott King was to follow in King's footsteps, also making important contributions to the civil rights movement.

One of King's most notable influences was Mahatma Gandhi, a great political leader who helped India gain independence from Great Britain. From Gandhi, King learned the value of use of passive resistance to influence society and obtain a very important goal. King decided to advocate for passive resistance and to use it in his attempt to bring about justice and racial equality in the U. S.

King first received national attention (as well as threats and indignities) as a result of his participatory leadership in the famous Montgomery Bus Boycott that began in 1955. History has described his efforts in the boycott as a major success foreshadowing future gains in the civil rights movement.

In April of 1963 King authored his famous "Letter From Birmingham Jail," an excellent description and explanation of his philosophy to bring about social change in the U. S. In August of 1963, King gave his famous "I Have a Dream" speech before thousands in Washington, DC, expressing his desire for a time when his children might be judged by the content of their character and not by the color of their skin. In 1964, King received the Nobel Peace Prize, heightening his growing prominence on the national and international level. King was a key participant in the famous Selma March that led to the passage of the Voting Rights Act of 1965. Later he brought his advocacy of civil rights and equal opportunity to Chicago where he attempted to improve the quality of life for African Americans. His assassination in 1968 shocked the nation, but reinforced recognition of his accomplishments. King is buried in Atlanta, Georgia, the home of his birth. His tombstone reads, "Free at last, free at last, thank God Almighty, I'm free at last."

King was not the only person to make substantial contributions to the civil rights movement in the U. S.; however, his legacies are enormous and important. King increased the political, economic, and social opportunities not only for African-Americans, but also for other minorities. He caused Americans and others to contemplate the effects of their behavior on the less fortunate in society. Finally, his efforts are a reminder that the price paid for equality is often going to be quite high; equal treatment is a public policy that does not come easily.

—William E. Kelly

See also **Civil Disobedience**

Further Readings

- Cone, J. H. (1991). *Martin & Malcom & America: A dream or a nightmare*. New York: Orbis Books.
- Lischer, R. (1997). *The preacher king: Martin Luther King, Jr. and the word that moved America*. New York: Oxford University Press.

McKnight, G. D. (1998). *The last crusade: Martin Luther King, Jr., the FBI, and the poor people's campaign*. Boulder, CO: Westview Press.

Pyatt, S. E. (1986). *Martin Luther King, Jr.: An annotated bibliography*. New York: Greenwood Press.

Ralph, J. R. (1993). *Northern protest: Martin Luther King, Jr., Chicago, and the civil rights movement*. Cambridge, MA: Harvard University Press.

KINSHIP AND DESCENT

Kinship and *descent* are each notions that have been of particular preoccupation to social anthropologists, as much due to their importance as because of the difficulties they present. It is worthy to note their close link, stemming from a common social and biological character (only the former being necessary).

In particular, *kinship* refers to social relationships that usually coincide with biological ones. This is the case with the two forms of *real kinship*: *consanguinity* and *affinity*. *Pseudokinship* or *fictitious kinship* takes place when the social relationships simulate the ones arising through real kinship (consanguinity or affinity) but without any biological relationship. For example, in many societies, children who are breast-fed by the same mother are considered siblings. We can view *ritual kinship* as a special form of fictitious kinship, which necessitates a ritual for its creation, rituals such as godparenthood, adoption, or fraternization.

The term *descent* denotes the relationship that bonds the child to its mother or father, through which the elements that constitute the main characteristics of their *status* are transmitted. These include name, surname, heritage, and so on. Descent rules determine mainly membership to the parents' kinship groups; in other words, descent is more of a social convention than a biological relationship. Consanguinity may exist, but it is in no way a necessary requirement. For instance, we consider adopted individuals (fictitious or ritual kinship) to have the same descent as the members of the group that adopted them. Just as it applies to individuals, descent can pertain to groups when group members biologically descend from a common ancestor or when they declare this to be the case, as slaves did by assuming membership of their owner's kinship group.

Morgan and especially Pitt-Rivers and Radcliffe-Brown formulated a series of theories that reproduction by way of descent is the main principle of kinship. These theories are known as *descent theories*. A different view to these older theories is aired by Lévi-Strauss's *alliance theory*, which links the exchange of women and the interdiction of incest as the organizational principles of kinship.

In all societies, kinship and descent are two different notions: Kinship is a social relationship that may or may not coincide with a biological one; descent is a social convention that may require a biological relationship.

Descent Systems

Descent systems determine the parents who transmit the main characteristics of individuals' status. Parents also determine our membership in kinship groups: our mother's, our father's, or both.

We can define descent as *bilateral* or *cognatic* when the characteristics of our status are transmitted through both parents and we belong to both parents' kinship groups. Most Western societies fall into this category, with children usually bearing their father's surname. We define descent as *unilineal* or *unilateral* when the elements of an individual's status are transmitted through only one parent and the individual belongs to only one parent's kinship group.

When the elements of an individual's status are transmitted through men, in particular the father, the descent is termed *patrilineal* or *agnatic*. In these cases, individuals belong to the groups constituted by their fathers' kin without overlooking their consanguinity links with their mothers. The Nuer in Sudan, as well as the ancient Romans, have kinship groups of typical patrilineal or agnatic descent.

Correspondingly, when the elements of status have been transmitted by women, by mothers in particular, the descent is called *matrilineal* or *uterine*. This descent was common among the Iroquois Native Americans, and it still happens in the Hopi tribe. In many matrilineal or uterine descent societies, the mother's brother has the primary role in the kinship group, corresponding to the father's role in cases of patrilineal or agnatic descent. In the Trobriands in Melanesia, the son belongs to his mother's kinship group in which her brother is also included; following the son's marriage, the son and his wife live with the said brother.

Some societies have an even more complicated descent system, combining matrilineal and patrilineal descent but with only one of them being commonly accepted. This system is termed *double descent* or *bilineal descent*, not to be confused with bilateral or cognatic descent, where descent is equally determined by both parents' sides.

In the Ashanti in Ghana, children inherit their fathers' "spirit" as a characteristic of their status, but they belong to their mothers' kinship groups, with whom they cohabit. A man and a woman who are distant patrilineal relatives are allowed to marry when it becomes impossible for them to name their common patrilineal ancestor, usually after four or five generations. Marriage is, however, strictly forbidden for all matrilineal relatives belonging to the mother's wider kinship group. Conversely, in the Yako in Nigeria, children belong to and live with the patrilineal kinship group. This patrilineal group is strictly exogamic; their matrilineal group is much less so. Here we have two unilineal descents juxtaposed.

Descent Groups

Extending our discussion of kinship and descent, a kinship group (either *lineage* or *clan*) may be of matrilineal, patrilineal, or double descent. *Lineage* is the wider group of individuals beyond the family who are interconnected through consanguineal kinship and who acknowledge a common ancestor. *Clan* is the even wider social group in which members acknowledge a common ancestry and whose relationships are ruled by solidarity. Whether the group is of matrilineal, patrilineal, or double descent depends on whether its members claim a common ancestor (who may be an existing or mythical person) and whether their characteristics are determined through the mother, the father, or both. These kinship groups are respectively known as *matrilineal*, *patrilineal*, or *double descent groups*.

The term *descent groups* is thus limited to unilineal or double descent groups. In the case of cognatic descent, there is no proper descent group, as neither patrilineal nor matrilineal relatives constitute a descent group because they both simultaneously belong to two kinship groups. Descent groups usually appear organized in such a way that enables them to make political, religious, or social decisions affecting their members. We call these *corporate descent groups*.

Descent and Residence

Because descent systems determine the kinship group to which individuals belong and with whom they usually cohabit, descent also appears related to the location of residence of both individuals and groups. When descent and locality appear parallel, that is, when patrilineal descent goes together with *patrilocality* or *virilocality* (residence with patrilateral relatives) and matrilineal descent goes together with *matrilocality* or *uxorilocality* (residence with matrilineal relatives), the descent system is described as *harmonic*. For instance, the patrilineal Nuer are patrilocal and the matrilineal Hopi, matrilocal.

There are cases, however, where descent and locality are opposed, as system we then describe as *disharmonic*. More specifically, a disharmonic system can combine either patrilineal descent with matrilocality or matrilineal descent with patrilocality. In Congo, for example, the husband lives in the same village as his father and sons (patrilocal residence) but belongs and inherits goods from his matrilineal descent group (matrilocal descent).

— Maria Velioti-Georgopoulos

See also **Kinship Terminology**

Further Readings

- Dumont, L. (1971). *Introduction à deux théories d'anthropologie sociale. Groupes de filiation et alliance de mariage*. Paris: Mouton.
- Fox, R. (1984). *Kinship and marriage: An anthropological perspective*. Harmondsworth, UK: Penguin.
- Goody, J. (1983). Kin groups: Clans, lineages and *lignages*. In J. Goody & L. Roper (Eds.), *The development of family and marriage in Europe* (pp. 222-239). Cambridge: Cambridge University Press.
- Lévi-Strauss, C. (1949). *Les structures élémentaires de la parenté*. Paris: PUF.

KINSHIP TERMINOLOGY

The *terminology of kinship*, that is, the terms we use to name our kin, is one of the most important areas of

study in the social anthropology of kinship. Kinship terminology is a message carrier, concurrently reflecting and determining social behavior.

Kinship refers to social relationships that may or may not coincide with biological ones. The terms of kinship can, indeed, correspond to true kinship, with social relationships coinciding with the biological ones (*consanguinity* or *affinity*). When social relationships only simulate biological ones, the term we use is *pseudo-kinship* or *fictitious kinship*. The third type of kinship is a special form of fictitious kinship created through a ritual, such as godparenthood, adoption, or fraternization. The terms of pseudo-, fictitious, and ritual kinship are identical to the ones of real or true kinship.

Terms of Address and Terms of Reference

Independent of the category of kinship, we divide terms that describe related individuals into terms of address and terms of reference. Terms of address are the ones we use from birth (*Ego*) to address our kin, such as “Mum” or “Dad.” Terms of reference are the ones we use to refer to our kin in the third party: “my mother,” or “my father.” As these examples demonstrate, terms of address and terms of reference may be identical. Our use of kinship terms depends on how familiar we are with the relatives involved and the ages and genders of these relatives. Both terms of address and terms of reference exist only with respect to one another: “father” or “mother” implies there is a “son” or “daughter” and vice versa.

Classificatory Terms—Kinship Systems

Based on earlier work by both L. H. Morgan and G. P. Murdock, we now use six categories to classify systems of kinship: Eskimo, Hawaiian, Iroquois, Sudan, Crow, and Omaha. The main criterion for classifying a system is how the *Ego* uses the same term for different relatives. For instance, the kinship system of Western societies belongs to the Eskimo group, where the brothers of the parents are “uncles” and their sisters, “aunts.” In contrast, in societies belonging to the Hawaiian group of classification, the same people are “fathers” and “mothers,” respectively. Using the same term for different relatives entails a significant similarity in the behavior of *Ego* toward them, for example, the possibility of marriage.

Descriptive Terms

Descriptive terms number but a few: father, mother, son, daughter, brother, sister, husband, wife. To eliminate any chance of confusion, we use each of these terms or a combination to describe only one relative. In the kinship systems of Western societies, individuals use descriptive terms wherever specific terms for each and every relative do not exist. For example, uncles from both the father's and the mother's side are not distinguished from the other; both are uncles. We can make the distinction because of descriptive terminology: father's brother and mother's brother.

In the Dinka and the Shilluk in Sudan, a special term-phrase exists for the relatives that Western societies call uncles and aunts: *brother/sister of mother/father*. Sudanese call every cousin *daughter/son of brother/sister of mother/father*.

Abbreviated Terms

Anthropologists invented abbreviated terms for methodological reasons, namely, simplicity and clarity. In both French and English, where fundamental terms of kinship are morphologically unlike each other, we can achieve what anthropologists envisioned. In English, the abbreviations of the terms of kinship consist of the first letter (or sometimes the first two letters) of the terms:

B: Brother

F: Father

M: Mother

So: Son

D: Daughter

H: Husband

Si: Sister

W: Wife

The abbreviated terms of kinship allow us to refer to relatives in ways that would be impossible using the particular terms of kinship in each society. For example, the abbreviation "MBD" refers to an individual's mother's brother's daughter, what the Ego would call "sister" in the Hawaiian system.

Fictitious, Ritual, and Pseudo-Kinship Terminology

We may use terms of real kinship in social relationships that result from fictitious or ritual kinship. For instance, children who have been breastfed by the same mother are *siblings* in many societies, but there is usually a more exact definition of this relationship: *foster siblings*. We may also use similar terms, such as *godfather-father* in English or *vëllam-vëlla* (blood brother-brother) in the archaic dialect of Albania called Arvanitika.

We may use terms of kinship metaphorically in cases where neither real, fictitious, nor ritual kinship is in place. For example, the inhabitants of the villages Didima, Karakassi, and Loukaïti (in Peloponnesus, Greece) address each other as *cousin*, referencing their reminiscence of a common ancestry, even when that relationship is distant.

Throughout Greece, the same term is used as a sign of familiarity between nonrelatives in a manner similar to the use of "friend" in English. The term *κονμπάροζ* (pronounced *koubáros*) that denotes the person necessary to accomplish a marriage, as well as the godfather, is used much in the same way. As a sign of respect, younger people and especially children may address adults as *uncle* or *aunt* and address the elderly as *grandfather* or *grandmother*.

Monks and other believers in the Christian church address each other as *brothers* and *sisters*, a practice with roots in the belief that all Christians are children of a "parental" God. Members of various organized groups, including religious groups or guilds, have also adopted terms of kinship and may call themselves *brotherhoods*. Examples of these are the *Confréries* in France and Belgium, whose name comes from *con* + *frère*, which translates as *jointly* + *brother*, such as the *Confrérie des Brasseurs* as a brotherhood for the brewers.

Whenever we require mutual support, we might use terms of kinship. For instance, we might call a more experienced co-worker who guides and instructs a newcomer in the workplace a *godfather* or *godmother*. Likewise, student *families*, such as those found in the colleges of the University of Cambridge in the United Kingdom, are composed of freshmen *children* and their co-student *parents*, more senior students who assume a guiding role.

—*Maria Velioti-Georgopoulos*

See also **Kinship and Descent**

Further Readings

- Augé, M. (Ed.). (1975). Initiation au vocabulaire de la parenté. *Les domaines de la parenté* (pp. 7–57). Paris: Maspero.
- Fox, R. (1984). *Kinship and marriage: An anthropological perspective*. Harmondsworth, UK: Penguin.
- Murdock, G. P. (1949). *Social structure*. New York: Macmillan.


KLUCKHOHN, CLYDE K. M.
 (1905–1960)

Clyde Kay Maben Kluckhohn was an early American anthropologist who made significant contributions to all four of anthropology's subdisciplines. One of the last true generalists in the field, Kluckhohn communicated his ethnographic research in the American southwest, as well as his theories on culture and society, to the public in accessible volumes such as *Mirror for Man* (1949).

Kluckhohn was born in Iowa in 1905. After completing his undergraduate degree in classics at the University of Wisconsin, Kluckhohn studied abroad, first at the University of Vienna in 1931, and then at Oxford University as a Rhodes Scholar in 1932. He completed his PhD at Harvard University in 1936 and was appointed to the faculty soon after; he spent his entire academic career at Harvard, where he taught anthropology and organized several interdisciplinary programs. Kluckhohn died in 1960 from heart failure while at work in New Mexico.

Kluckhohn's ethnographic contributions extend from his research in the American southwest. He gained firsthand experience with the Navaho when, at age 17, he was sent to New Mexico to recover from an attack of rheumatic fever. Kluckhohn published widely on Navaho society, most notably *Navaho Witchcraft* (1944) and *The Navaho* (1946).

Kluckhohn brought his eclectic knowledge of biology, psychology, and history to bear on his other major contribution to the discipline: the idea of culture. As a scholar, Kluckhohn was dedicated to moving anthropology away from the cultural relativism of Franz Boas and toward the search for human universals, a move he believed would gain anthropology a

place in the theoretical sciences. He pursued the search for universals in value theory, asserting that despite wide differences in customs, fundamental human values were shared across different societies. Kluckhohn communicated these ideas in works such as *Culture: A Critical Review of Concepts and Definitions* (with A. Kroeber, 1952).

Kluckhohn's interests ranged beyond the field of anthropology to include university administration and government service. At Harvard, Kluckhohn was Curator of Southwestern Ethnology at the Peabody Museum and a senior founding member of the Department of Social Relations. During World War II, he served as consultant for the Office of War Information where social science principals were used to analyze Japanese society. His early government service led to his appointment as the first director of the Russian Research Center. A product of the growing tension between the United States and the Soviet Union, the Center was dedicated to the investigation of Soviet society through the social sciences.

— Benjamin W. Porter

Further Readings

- Kluckhohn, C. (1942). Navaho witchcraft. *Papers of the Peabody Museum of Archaeology and Ethnology*, 22(2). Cambridge, MA: Harvard University.
- Kluckhohn, C. (1949). *Mirror for man: The relation of anthropology to modern life*. New York: McGraw Hill.
- Kluckhohn, C. (1962). *Culture and behavior: The collected essays of Clyde Kluckhohn*. New York: Free Press.


KOBÁ

Koba, located in the northeastern Yucatán peninsula in the modern Mexican state of Quintana Roo, functioned as a Classic Maya metropolis. The center was also occupied in the Preclassic and Postclassic periods. The site includes prominent archaeological features such as pyramids, tombs, vaulted structures on elevated platforms, staircases, altar stones, stone carved slabs (*stelae*), and a complex set of roads (*sacbeob*) that connect the core area to the peripheries of the site and distant centers such as Ixil (20 kilometers to the

southwest) and to Yaxuna (100 kilometer to the west). The core of the 63-square-kilometer site includes a 1.5-kilometer-square area built on an artificial elevated platform which was the focus of the royal court, with large pyramid structures, elite residences, reception areas, broad stairways, and alley-like passageways. Koba was dramatically successful in creating an expansive Classic Maya regional center with its spoke-like *sacbe* system binding peripheral noble houses to the core area and serving as the boundaries of the contiguous suburban zones. Longer roads, trading expeditions, and warfare defined the limits of this regional state. The population of Classic Koba, estimated as 55,000, resided adjacent to the civic-ceremonial core and included greater nobles, lesser nobles, attendants to these, artisans, and modest commoners.

The Iglesia pyramid and the Nohoch Mul (Ixmoja) pyramid, located in the core area, are surrounded by vaulted architecture on both high and low platforms. The vaulted structures range from lavishly complex, double-wide vaulted structures to smaller, single-vaulted rooms. The functions of the central court area and its associated architectural forms are revealed through ethnography, ethnohistory, art history, and epigraphy. At Koba, this sector of the site is difficult but not impossible to interpret. The glyphic record at Koba is sadly eroded, the stone slab *stelae* inscriptions faded and in some cases broken; however, the ethnohistoric record provides some insight into the political importance of Koba. In addition, the ethnographic record of the Yucatec Maya lends some support to interpretation of the suburban zones, family structure, economic and political organization, and the religious symbolism and practice at the site.

One of the *stelae* at Koba illustrates connections between Koba and a woman from Naranjo, a Maya center located to the south. Through the tie to Naranjo, Koba was also bound to Tikal, but alienated from Calakmul and Caracol. Additional *stelae* at Koba mark the fortune and struggles of the center as part of the pre-Columbian Maya region.

Architecture and Construction

The central core zone and palace space at Koba is not like any other site: it is unique in its setting on the shore of Lake Koba and Lake Macanxoc, extending north to the Nohoch Mul group. Features include two ball courts, high platforms topped with double-vaulted

structures, altars, *stelae*, enclosed private courtyards surrounded by substantial constructions with vaults, staircases, and tombs. Multiple entrances into restricted courtyards are seen in buildings adjacent to the Iglesia pyramid, at the south and terminal end of Sacbe 27, and in the large, but perhaps unfinished, enormous mound to the west of the Nohoch Mul pyramid. Small spaces open onto large plaza areas (such as the zone in front of the Iglesia pyramid, from adjacent plazuelas, and from the high mounds and vaulted structures in the Coba Group B). Another large plaza area is found in front of the Nohoch Mul pyramid and main staircase. Large courtyards and the open plaza areas were the location of public theater, ritual and secular activities. More intimate enclosures (such as the modest plazuela behind the Macanxoc group, perhaps the area around the Las Pinturas group, smaller courts such as those associated with vaulted structures found at the end of Sacbe 27, and plazuela groups dispersed throughout the suburban zones) also functioned as loci for ritual celebrations and secular activities. Elite constructions involved high-energy investments in collecting the stone, rubble fill (*chich*), and plaster for stuccoing the walls. The amount of stone collected and shaped to construct the pyramids and some of the complex elite residential structures was enormous. Small *sascaberas* (granular limestone mines) for collecting raw materials for stucco are found adjacent to the perimeter of the central core area, in the northern survey zone, and elsewhere. In the suburban zones, platforms, vaulted constructions, and the foundations of pole-and-thatch housing required the collection of stone. Granular limestone for stucco, support beams, wall poles, and roofing thatch were required for construction of vaulted and unvaulted structures that served as shrines, residences, kitchens, storage buildings, and foundation stones for small garden areas. While stucco murals and fragmentary stucco in walls can be seen in the core area, stucco was also applied to walls outside the central zone. To the south, stucco walls were found at Dzib Mul and fragments of stucco can be seen on the high vertical walls on the east side of the Kitamna mound.

Administration and Court Structure

Classic Koba also housed principal and secondary nobles who performed key administrative duties and whose residences were located adjacent to the core in

residential zones and at the ends of the many *sacbeob* (roads) for which Koba is deservedly famous. Important positions associated with the ruler include his Baah Ahaw (“Head Lord”), the Sajal and Ah K’uhuum, Yahaw K’ak, (the “Fire Lord”), Yahaw Te (“Tree Lord”), Ebet (“Messenger”), Ah Baak (“Captive Taber”), or Baah Pakal (“Head Shield”). These and their associates managed the operations of Classic Koba, inside and beyond the city limits.

The rulers pictured on *stelae* at Koba had female counterparts. Costumes worn by royalty are only visible in carved stone *stelae*, but these carvings show elaborate feathered headdresses, and details of dress, as well as scepters of power characteristic of Maya kings and queens elsewhere. It is highly probable that the elite men and women at Koba wielded both supernatural and earthly power as they did elsewhere in the Maya zone.

Ceramic art of the period indicates the presence of powerful women: royal wives who forged powerful alliances between Maya kingdoms. The significant relationship between rulers and powerful women is also manifest at Koba where a royal woman from Naranjo is portrayed on a *stela* at the second ball court constructed near the Nohoch Mul complex. The rulers and the queens were accorded elite burials; although to date no noble woman’s tomb has yet been located, these high-status individuals would have carried symbolic codes in their dress, posture, and actions. The prime identifier for maize deities is the net overskirt of linked jade beads; both kings and queens are known to wear this garment, including the Koba queen from Naranja.

Documentation and Symbolism

The murals, glyphs and carved *stelae* found at Koba are badly eroded and faded but some records can be recovered. The *stelae* reflect important individuals involved in sacred and secular activities of import to the success of Koba as a central place. The decorated and elaborate figures mark dynastic histories, war triumphs and ritual common to Koba and other Maya centers.

Life at the Maya court is reflected in rulers standing on the backs of captives; seated on elevated platforms with cushions, pillows, and mats; in curtained rooms; in public spaces; dressed with care in elaborate costumes and headdresses. The *stelae* provide documentation of clothing; sandals; elaborate, feathered

headdresses; jewelry (jade, shell, and bone); elevated platforms for positioning rulers; associated attendants to the court (small dwarf figures representing companions to the Ruler/Maize God, manifestations of the dwarf/stubby malformed maize ears that commonly form on the corn stalk); and symbolism that reflects maize, cacao, and the calabash tree. The ceramics at Koba date primarily to the Late Classic Period (600–800 AD), although the site was occupied in earlier and later periods. The Late Classic pottery is Tepeu I and Tepeu II styles, and fragmentary.

The *quincunx*, symbol of the Maya four directions and the center, appears as a decoration on the stairway to the north of the Iglesia patio and marks the entrance to the first ball court reconstructed at Koba. The staircase may have been designed to celebrate victory and bring the battle to the Maya court as ballplayers marched down the stairs into the playing field. Battles were played out on the ball courts that merge secular and sacred space. Who the Koba warriors were fighting and why remains unclear, but elaborate trade relations and tribute payments may have been cemented through military subjugation.

Maya warfare focused on the capture of enemies, and these conquests were incised on Koba *stelae* where captives, with their wrists and feet bound, are crouched beneath the feet of rulers.

Maize, Myth, and Sacrifice

The Classic Maya gave central importance to the life cycle of maize, including attention to the wet and dry seasons; crop planting; and its sprouting, ripening and harvesting, as well as activities associated with processing the kernels (removing them from the cob, grinding them, and the nixtamalization process). The tragic adventures of the Maize God in the Underworld, his death, and resurrection, and the adventures of the Twin Heros (Hunahpu and Xbalanque) represent a story of epic proportion retold in the Popol Vuh. This epic has deep roots that reach back into the Classic and perhaps Preclassic Maya Periods: A Maya lord seated on top of a mountain or stone was recognized as part of the story of the Maize God; the Maya ruler on an elevated platform was identified with the Maize God; the Maya lords living on top of high, elevated platforms in cavelike, vaulted, stone buildings impersonated the Maize God. The site of Koba is riddled with metates in the core area and in the suburban zones. Noble residences



Nohoch Mul Koba

Source: Photograph by Ellen R. Kintz.

with domestic structures and associated metates document significant processing of maize on the household level and in the central zone. In addition, Koba also has round altars that may have been used as sacrificial stones, with the victim's body recognized as the symbolic center for the sprouting of maize (as illustrated by Maya artists at Piedras Negras, Peten, Guatemala, in the Codex Dresden and Codex Tro-Cortesianus, and in the Temple of the Warriors and Temple of the Jaguars at Chichen Itza).

Offerings excavated at the La Iglesia pyramid beneath a reset *stela* revealed shell, cinnabar, jade, and pearls as symbolic reflections of the Maize God, blood, death, and resurrection. A second offering in front of the first included seashell, jade, shell beads, and unworked hematite, replicating the first offering and reinforcing the symbolic associations of maize, death and rebirth. A third offering associated with La Iglesia revealed a censer, a monochrome plate, and miniature mano and metate, also representing association with the Maize God and suggesting rituals performed by the ruler as the Maize God impersonator. A skeleton buried in La Iglesia, with jade beads in each hand, illustrates the Maize God interred in the Iglesia mountain underworld.

To the north of the pyramid structure, the first ball court reflects the struggles of the Maize God and his brother, as well as the activities of the Hero Twins in the Popol Vuh epic. The second ball court at Koba has a ceramic skull located in the center of the playing field. The courts represent "places of sacrifice" associated with elements (such as the calabash tree, jaguars, sacrificial knives, mosquitoes, coatimundi, squash, ants, vampire bats, blowguns, comal griddles, masa corn meal), as well as with cunning, wit, and transformation. The ball courts at Koba reflect Maya symbolism, sacrifice, and resurrection as is recorded in the Popol Vuh epic as well as

the importance of maize, other plants, and animals in the Maya world. While burials and offerings at Koba that include jade (acquired by long-distance trade) represent the Maize God's costume minimally in comparison to the royal jade masks found with kings interred at Palenque and Calakmul, the symbolism is present and clear.

One significant obsession of Maya royalty was the emulation of the life of the underworld deity known as God L, the wealthy god of trade and tobacco, whose palace was richly furnished with objects desired by Maya kings. God L, old and toothless, with jaguar attributes, exhibited richly brocaded capes and extravagant feathered hats; frequently, his attendant owl was perched on his head. Beautiful women attended to his needs, and he received the frothy chocolate, a beverage preferred by the Maya nobility. God L was associated with the Rabbit scribe and the Moon Goddess, and because of this he is of particular interest in a discussion on Koba. The La Iglesia group at Koba is a place associated with reverence to the Moon Goddess, Chibirias (or Ix Chebel Yax) in contemporary local mythology. The Moon Goddess is known to be associated with abundant rebirth and regeneration in maize mythology and,

according to Redfield and Villa Rojas, *campesinos* (farmers) in Chan Kom have reported that maize is grown following the lunar calendar. Local hunters continue to burn candles and incense before they enter the forest at night. The hunters seek deer, an animal associated with Blood Woman (mother of the Hero Twins). God L, the Rabbit scribe, the Moon Goddess, and the Maize God perform their parts in the Maya epic story, played out in ball courts and adjacent zones at Koba. God L, as trader (clearly manifested in the murals at the site of Cacaxtla), was tied not only to maize but also to cacao. These two crops, central to the Maya economy, can be seen on ceramic vessels documenting the connection between cacao and maize, as well as the economic and symbolic significance of these crops. While maize is known to have grown successfully in the relatively moist climate zone around Koba, it has been suggested that Ixil served as a “bread basket” zone to the southwest of Koba, connected by a substantial *sacbe* (roadway). The moister climate may also have allowed the growth of cacao at Koba (which was also grown to the south in Honduras). Deep cenotes around Koba could have served as microclimates for cacao cultivation; there is evidence that a large cacao tree was known to thrive in a cenote in the southern zone at Koba until a decade ago. The ability to grow even a few cacao trees in a cenote would have heightened the political and economic power of the Koba rulers. As documented on ceramic iconography; the Maize God is linked to the cacao tree. Cultivation of fruit, fiber, bark, and resin was important in the Maya garden city and reflected social organization.

Another possible transformation of the Maize God appears in the calabash tree. One Hunahpu (the father of the Hero Twins and representative of the Maize God), appears as a head in the calabash tree. Maize, cacao, and the calabash tree were all prominent features in the environs of Classic Koba; their high productivity would be associated with royal, economic, and political clout. The Koba ball courts and caches of jade, cinnabar, pearl, and shell document royal concerns for these trade and prestige products.

The Hero Twin Hunahpu loses his head to the gods of the Underworld, and may be represented by the skull in the second ball court at Koba. His skull is only a temporary loss, replaced by squash and then reattached; however, he later sacrifices himself with his twin brother by leaping into the fire. Their bones are

ground down to *masa* (corn powder), thrown into water, and reconstituted as fish, fish-men, and the Tricksters who defeat the Lords of the Underworld to emerge as the Sun, Moon, and Venus. The three celestial images were probably observed and plotted from the Cono or Xaibe observatory at Koba. The structure has been reconstructed; alignment with the adjacent pyramid/mountain, the Nohoch Mul, and other structures reflects the astronomical prowess of the Maya residing at Classic Koba.

Myth as Urban Organization

Koba, in line with findings and interpretations elsewhere in the Maya region, depicts the contrasts between agricultural wealth based on maize, and commercial wealth based on cacao. The *stelae*, murals, vaults on platforms, and pyramids attest to the complex nature of Maya urban organization at Koba, and to the struggles and strength of the social groups residing in the city and beyond. The clearest portrait of Maya social dynamics was played out in the ball court where king and queen, father and son, agriculture, trade, politics, and religion are patterned as epic myth and social realities.

Human remains have been excavated at Koba, including an adult interred in a filled chamber associated with the La Iglesia pyramid. A reburied skeleton of an adolescent has been excavated in a small stone crypt. Burials outside the core have not been located but single structure units may have served as barrio shrines, perhaps associated with burials, as noted elsewhere in the Maya zone. What made Koba able to rise to its social, political and economic heights, and what caused the center to falter and collapse? What allowed the nobles of Koba to connect to the southern Peten zone? What permitted the center to gain access to pearls, shell, cinnabar, jade, and obsidian among other exotic and valued goods? Who were the rulers that guided the city? Who were the warriors and traders that protected and provided the goods that enabled the city to thrive? An understanding of these issues is yet to be achieved; however, it is clear that the center rose to great heights and accomplished massive tasks in building pyramids, palaces, and vast numbers of house compounds (both large and complex, as well as modest and simple structures). One clue to the builders' intent might be the blue-green color seen on fragments of stucco and in faded murals at Koba; blue-green represents the fifth

direction, the center: the union of celestial, terrestrial, and underworld levels of the cosmos.

Beyond the stark realities of politics and economic life, the people of Koba clearly designed the center to merge secular, sacred, and mythic in a rich pattern that characterized Classic Maya culture and was to endure in contemporary Maya culture, albeit, in an innovative pattern.

— Ellen R. Kintz

See also **Mayas**

Further Readings

- Folan, W. J. (1978). Coba, Quintana Roo, Mexico: An analysis of a prehispanic and contemporary source of *sascab*. *American Antiquity*, 43, 79–85.
- Folan, W. J., Fletcher, L. A., & Kintz, E. R. (1979). Fruit, fiber, bark and resin. The social organization of a Maya urban center: Coba, Quintana Roo, Mexico. *Science*, 204, 697–701.
- Folan, W. J., Kintz, E. R., & Fletcher, L. A. (1983). *Coba. A classic Maya metropolis*. New York: Academic Press.
- Kintz, E. R. (1990). *Life under the tropical canopy: Tradition and change among the Yucatec Maya*. Fort Worth, TX: Holt, Rinehart & Winston.
- Miller, M. E., & Martin, S. (2004). *Courtly art of the ancient Maya*. New York: Thames & Hudson.
- Tedlock, D. (Trans.). (1985). *Popol vuh: The definitive edition of the Mayan book of the dawn of life and the glories of gods and kings*. New York: Simon & Schuster.
- Thompson, J.E.S., Pollock, H. E. D., & Charlot, J. (1932). A preliminary study of the ruins of Coba, Quintana Roo, Mexico. *Publication 424, Carnegie Institution of Washington*.

KÖHLER, WOLFGANG (1887–1967)

Wolfgang Köhler was born on January 21, 1887, in Rivel, Estonia. He was educated at the Universities of Tübingen and Bonn, and at the University of Berlin where he received his PhD in 1909. His doctoral dissertation was on psychoacoustics. Köhler is best known for his research in comparative psychology on the intellectual and problem-solving abilities of

chimpanzees (*Pan troglodytes*), and for his involvement with Gestalt psychology.

From 1913–1920, Köhler was the director of the Anthropoid Research Station on Tenerife, Canary Islands. The research station was established by the Prussian Academy of Sciences to study the behavior of various primate species in hope of ascertaining where they fell along the evolutionary continuum, especially in comparison to humans. Köhler's observations and studies of the nine chimpanzees housed on Tenerife were summarized in *The Mentality of Apes* (1925).

Köhler recognized that chimpanzees are intelligent creatures, and that their behavior in natural settings resembles that of humans. On Tenerife, he observed chimpanzees interacting with one another during contrived problem-solving tasks. Some tasks involved using items such as sticks, boxes, and ropes to access food that was out of reach. The chimps attempted to obtain the food in various ways, using mostly trial-and-error methodology. Köhler noted that the chimpanzees appeared to survey the scene, think of a possible solution to the problem, and then act upon it. It seemed to Köhler that the chimpanzees suddenly came upon solutions, evidence for the chimpanzees doing the trial-and-error learning in their minds rather than outwardly, which Köhler believed was suggestive of insight learning.

Köhler and colleagues believed that the mind perceives things in the most organized and simplistic way possible. Along with fellow theorists such as Kurt Koffka and Max Wertheimer, Köhler believed that the whole of a system could be greater than the sum of its parts. With this theory, they created a new branch of psychology known as Gestalt psychology. Although Max Wertheimer is usually attributed with being the founder of Gestalt psychology, some people also credit Köhler; however, the theory itself dates back to Christian von Ehrenfels' *Über Gestaltqualitäten* (1890). The word *Gestalt* is of German origin and literally means pattern or organized whole.

After leaving Tenerife in 1920, Köhler became director of the Institute of Psychology at the University of Berlin. He was a visiting professor at Clark University (1925–1926), a William James lecturer at Harvard University (1934–1935), and a visiting professor at the University of Chicago (1935). By 1935, there was mounting pressure and social change from the Nazi regime that eventually affected the University of Berlin. Köhler publicly criticized Nazism, and

his clinic was raided twice by Nazi supporters; as a result, Köhler decided to accept a research professorship at Swarthmore College in Pennsylvania, where he stayed until 1958. Köhler remained an active researcher and lecturer for the remainder of his life. On June 11, 1976, at the age of 80, Köhler passed away at his home in Enfield, New Hampshire.

— Lisa M. Paciulli and Emma L. Hettrich

See also **Chimpanzees**

Further Readings

- Ash, M. G. (1995). *Gestalt psychology in German culture, 1890–1967*. New York: Cambridge University Press.
- Ellis, W. D. (1974). *A source book of Gestalt psychology*. London: Routledge & Kegan Paul.
- Henle, M. (1971). *The selected papers of Wolfgang Köhler*. New York: Liveright Publishing.
- Köhler, W. (1925). *The mentality of apes*. Trowbridge, UK: Redwood Press.
- Köhler, W. (1969). *The task of Gestalt psychology*. Princeton, NJ: Princeton University Press.
- Köhler, W. (1992). *Gestalt psychology: An introduction to new concepts in modern psychology*. New York: Liveright Publishing.
- Murray, D. J. (1995). *Gestalt psychology and the cognitive revolution*. New York: Wheatsheaf Books.

KOKO (LOWLAND GORILLA)

Koko is a 180-pound, lowland gorilla who has been taught American Sign Language by developmental psychologist Francine “Penny” Patterson since July, 1972. Born on the fourth of July, 1971 at the San Francisco Zoo, the gorilla was named Hanabi-ko (Japanese for “fireworks child”), but she is best known by her nickname, Koko. With the possible exception of King Kong, Koko is perhaps the world’s most famous Great Ape. She has appeared hundreds of times on national television and the covers of magazines such as *National Geographic*. As Koko is purported to have a vocabulary of more than a thousand signs, anthropologists and linguists have been intrigued by her apparent capacity for complex, human-like

language. Children and her other fans, however, are simply fascinated by her charm: Koko loves to look at pictures in books and magazines; she paints, and she has raised several kittens.

While not every researcher agrees with Penny Patterson that “she’s just as much a person as we are,” Koko is an ambassador and “spokesperson” for wildlife conservation, endangered species, and refuge projects for primates. Koko’s Gorilla Foundation—with its website, newsletters, and other promotions—have kept ape-language research in the public consciousness, even though it has lost much of its earlier momentum in the scholarly community. While Koko’s website says she wants to have a baby and that she will teach her child to talk, her past romantic encounters (such as with her first boyfriend, of sorts, Michael) have not been encouraging. As Koko progresses through her mid-30s (which is long-lived for gorillas in the wild), the possibility of pregnancy is decreasing yearly.

In the 1970s, interest in communicating with primates using sign language, computers, or other artificial devices not only captured the public’s imagination to be able to “talk to the animals,” but also seemed to be a very promising line of scholarly research. Psychologists, biological anthropologists, and those who studied language acquisition believed that these ape sign-language experiments could offer much insight into human evolutionary cognitive and linguistic development. Of all the apes studied, Koko appeared to be the most facile, and even some introductory anthropology textbooks were saying that she knew some 2,000 English words. If this were true, it would put Koko on par linguistically with a 5- or 6-year-old human child.

Patterson now gives a more modest figure for Koko’s accomplishments: a working vocabulary of 500 signs with approximately another 500 signs she has said herself on one or more occasions. Yet, more important than the mere number of different vocabulary items attributed to Koko are the quality and kinds of language she uses. For example, one of the characteristics that is often said to separate human from nonhuman language is productivity: the ability to coin new words for new phenomena. Koko apparently does this quite often, such as making the sign combination *eye hat* for “mask,” *elephant baby* for a Pinocchio doll, or *white tiger* for a toy zebra. While other primates have used signs productively (such as the chimpanzee Washoe’s famous *water bird* for

“duck”) Koko’s neologisms seem more abstract, as the component parts of her new signs are not actually physically present when she creates them. She also has a very colorful and creative vernacular vocabulary of expletives. When Penny playfully put a salt shaker on her head, Koko called her *head stupid*. When asked what she thinks of her gorilla friend Michael, she has replied, depending on her mood, *think stupid devil, rotten devil, or toilet*.

Another characteristic of human language is that of displacement: the ability to talk about something beyond the immediate present or geographic locale. Below is an often-quoted discussion with Koko about death. Koko was asked to pick out the gorilla skeleton among four types of animal skeletons. After she picked the gorilla skeleton, the trainer asked her if this was an alive or dead gorilla. (It should be noted that the sign for *drapes* is polysemous for Koko, referring to security, providing security, or being afraid.) Her answer:

Koko: *dead drapes*

Trainer: Let’s make sure, is this gorilla alive or dead?

Koko: *dead good bye*

Trainer: How do gorillas feel when they die—happy, sad, afraid?

Koko: *asleep*

Trainer: Where do gorillas go when they die?

Koko: *comfortable hole sleep*

Trainer: When do gorillas die?

Koko: *trouble old*

By the 1980s, enthusiasm for the ape-language had drastically waned. This was partly due to dismissals by theoretical autonomous linguists of the Chomsky school (e.g., Joel Wallman, Lyle Jenkins) and many cognitive scientists (e.g., Steven Pinker). Also, increasing funding for AIDS research caused a chimpanzee shortage at animal laboratories, and some universities and primate centers found they could no longer afford to operate as their funds were cut or transferred to medical research. Patterson left Stanford University and established the private nonprofit

Gorilla Foundation whose primary purpose was to continue the language project, increase public awareness of gorillas as a threatened species, and provide a home for Koko.

Some of the criticisms leveled against all ape-language experiments can be seen in the following excerpt from a national AOL Live Internet Chat held in 1998 between Koko and Penny Patterson at the Gorilla Foundation, and a moderator and various questioners:

Moderator: Welcome Dr. Patterson and Koko, we’re so happy you’re here.

Patterson: You’re welcome.

Moderator: Is Koko aware that she is chatting with thousands of people now?

Koko: *good here*

Patterson: Koko is aware.

Questioner 1: Koko, are you going to have a baby in the future?

Koko: *listen Koko loves eat*

Moderator: Me too.

Patterson: What about a baby? She’s thinking. . .

Koko: *unattention*

Patterson: She’s covered her face with her hands. . .which means it’s not happening, basically, or it hasn’t happened yet.

Koko: *I don’t see it.*

Moderator: That’s sad.

Here we see prompting by Patterson when Koko is silent, an interpretation provided when Koko’s response is inappropriate, and a filling in of details not actually spoken by Koko.

Patterson has made surprising claims about Koko, even claiming that she has an IQ of 80.3 on standardized human intelligence tests. Perhaps because of their popularity in the mass media, Patterson and Koko are more harshly criticized than other ape-language researchers.

But these critics are perhaps being narrow minded. One reason Patterson and Koko's conversations are so interpretive may be due to the fact that they have never been apart since their language research started. As the science writer Eugene Linden noted, "Their relationship has all the overlays of love, bickering, and resentment. . . between a mother and a daughter who have spent their lives closeted together. . . . Were Koko human, their life together might have been a fitting subject for treatment by Tennessee Williams. Koko and Penny know each other so well that merely to read a transcript of their signing conversations is to glimpse only a very small portion of the interplay between them."

— James Stanlaw

Further Readings

- Jenkins, L. (2000). *Biolinguistics: Exploring the biology of language*. Cambridge, UK: Cambridge University Press.
- Linden, E. (1986). *Silent partners: The legacy of the ape language experiments*. New York: Times Books.
- Patterson, F., & Gordon, W. (1993). The case for the personhood of gorillas. In P. Cavalieri & P. Singer (Eds.), *The great ape project: Equality beyond humanity* (pp. 58–77). New York: St. Martin's.
- Patterson, F., & Linden, E. (1981). *The education of Koko*. New York: Holt, Rinehart, & Winston.
- Peterson, D. (1989). *The deluge and the ark: A journey into primate worlds*. New York: Avon Books.
- Pinker, S. (1994). *The language instinct: How the mind creates language*. New York: William Morrow.
- Savage-Rumbaugh, E. S. (1986). *Ape language: From conditioned response to symbol*. New York: Columbia University Press.
- Wallman, J. (1992). *Aping language*. Cambridge, UK: Cambridge University Press.

KOVALEVSKII, ALEKSANDR O. (1840–1901)

Russian biologist Aleksandr Kovalevskii (Kowalevsky) is notable for his foundational contributions to modern comparative embryology. Raised in a secular society with his brother Vladimir, Kovalevskii received his master's degree from St. Petersburg

University for his studies of *Amphioxus lanceolatus*. The results from his research gained him admittance into the Russian Academy of Sciences, the Paris Academy of Sciences, and the Royal Society of London. Although Kovalevskii had won acclaim and prestige for his research, civil and academic political restraints prevented him from teaching at the leading academic centers of St. Petersburg and Moscow. Resigned to less-equipped provincial universities, he spent the rest of his academic career in Kazan, Kiev, and Odessa. In honor of Kovalevskii's achievements, the St. Petersburg Society of Naturalists created an international award, The Kovalevskii Medal, for advancing accomplishments in comparative embryology and zoology within an evolutionary framework. Applied to the study of phylogenetic relationships, Kovalevskii's contributions are foundational to Russian Darwinism.

Contributions and Perspectives

Influenced by Charles Darwin's theory of organic evolution, Kovalevskii's research into evolutionary embryology yielded insights into the relationships among species within a taxonomical framework. In his inquiry into the vertebrate *Amphioxus lanceolatus*, Kovalevskii suggested that this species could represent a transitional phase between vertebrates and invertebrates. Upon his initial research, he found that the embryonic development depicted two distinct developmental phases; the first phase resembles invertebrates, and the second phase resembles vertebrates. During this process, appearance of both egg and blastula is later followed by an embryo with both internal and external germ layer found in vertebrates. It was shown that within embryonic development, both vertebrates and invertebrates are similar; consequently, this discovery resulted in the reclassification of the lancet from vertebrate to invertebrate. Furthermore, Kovalevskii's inquiry into ascidians provided evidence that the developmental growth of these sea organisms closely parallels vertebrate development. Inquiry into embryonic development of other invertebrates exhibits similar development. Similar to Darwin's experiences that led to his discovery of organic evolution, Kovalevskii's study of marine life led to the finding of related species among the waters of both the Red and Mediterranean Seas. His findings provided further support for Darwin's scientific determination and opinion regarding embryonic development as possible terms in taxonomical evaluations.

Although Darwin's theory of organic evolution was not without its critics in Russia, most notably Karl von Baer (1792–1876), the mainstream of anti-Darwinian thought consisted of objections to transitional forms of species. Insufficient comprehension of heredity (genes and mutations) and the nature of adaptation allowed for the resurging fundamental principles of Aristotle (348–322 BCE) and Carol Linnaeus (1707–1778). Steeped in teleology and a designed ontology, the ensuing political climate (academic and social) differed slightly from today. In spite of this climate, Kovalevskii contributed evidence to the validity of Darwin's theory of evolution with the mechanism of natural selection within the biological sphere of marine life. Kovalevskii corresponded with Darwin, informing Darwin as to advancements in his own research and assisting with the translation of Darwin's publications that influenced embryology in both Russia and Western Europe.

—David Alexander Lukaszek

See also **Darwin, Charles; Kovalevskii, Vladimir O.**

Further Readings

- Gould, S. J. (2002). *The structures of evolutionary theory*. Cambridge, MA: Harvard University Press.
- Vucinich, A. (1988). *Darwin in Russian thought*. Los Angeles: University of California Press.

KOVALEVSKII, VLADIMIR O. (1842–1883)

Russian paleontologist Vladimir O. Kovalevskii was noted for his contribution to the development of phylogenetic sequences or stages of evolution in species with an adaptive perspective. Brother to biologist Aleksandr, Vladimir is perhaps best known for his depiction of the transitional sequence involving the species *Equus*. Although educated in law as an undergraduate, he paid a heavy price for the transition to paleontology, first failing his examination at Odessa University and then failing to find suitable employment. Encountering opposition at every level, Vladimir was eventually appointed to Moscow University, a career cut short by his suicide in 1883.

Contributions and Perspectives

Influenced by the works and personal correspondence of Charles Darwin, Vladimir disseminated evolutionary theory by translating Darwin's works and supported his own research by publishing several monographs (one of which, *Anthracotherium*, he dedicated to Darwin). In addition, by translating other significant scientific and philosophical works, for example, Charles Lyell's *Antiquity of Man*, Kovalevskii typified and implemented the historical approach to the evolutionary perspective. This perspective was critical for the development of paleontology within Russian academia, through which Kovalevskii stressed the importance of fossils, biology, and ecology of species within an evolutionary and historical framework.

Kovalevskii's greatest contribution was reconstructing the evolution of the common horse, *Equus*. Using what we consider functional morphology, he studied the range of hooves or ungulates and arranged them into morphological variants (adaptations) and geological time. When viewed in this perspective, the lineage depicted several morphological changes: increase in size, modification of digits, and differences in dentition or the character of the teeth. When we interpret these changes through historical and geological time, it becomes apparent that the physical adaptations were a result of a changing ecology, thus supporting the Darwinian idea of natural selection.


Kovalevskii's research supported Darwin's theory of organic evolution and the mechanism of natural selection, implemented an active approach to phylogenetic reconstruction, and established a comprehensive view of what would later develop into anthropology. Fighting against the political and academic restraints of the time, the very restraints that would contribute to his death, Kovalevskii tied Russian thought and science to Western Europe. This affiliation with the West and Kovalevskii's overall contribution to scientific thought advanced unity in Russians' view of life. Kovalevskii had provided the physical evidence to support not only his own personal perspective but also to reaffirm the materialistic interpretation of Darwinian evolution.

—David Alexander Lukaszek

See also **Kovalevskii, Aleksandr O.; Selection, Natural**

Further Readings

- Darwin, C. (1964). *On the origin of species*. Cambridge, MA: Harvard University Press.
- Gould, S. J. (2002). *The structures of evolutionary theory*. Cambridge: Harvard University Press.
- Vucinich, A. (1988). *Darwin in Russian thought*. Los Angeles: University of California Press.


**KROEBER, ALFRED LOUIS
(1876–1960)**

Alfred Lewis Kroeber was an early American anthropologist who made significant contributions to all four of anthropology's subdisciplines. Kroeber is significant for his research on North American indigenous populations, his dedication to characterization and classification methods in ethnographic research, and his advancement of a definition of culture as a superorganic phenomenon. He established one of the most important centers for anthropological research at the University of California, Berkeley, where he trained a generation of anthropologists such as Julian Steward and W. D. Strong.

Kroeber was born in New Jersey in 1876 and grew up in New York City. He earned his bachelor's (1896) and master's (1897) degrees in English; Kroeber eventually obtained his doctorate (1901) in anthropology at Columbia University under Franz Boas, the founder of American anthropology. Kroeber moved to California in 1900 where he spent the bulk of his life, first as curator at the California Academy of Sciences, and later as a founding member of Berkeley's Department of Anthropology. After a lifetime of research and teaching, Kroeber died of heart failure in 1960 while on holiday in Paris.

Kroeber asserted throughout his career that all societies were historically unique and should be observed holistically to appreciate all constituent aspects (e.g. kinship, religion, language). As a result, Kroeber developed methods to characterize and classify the cultural traits of a society. One such example included recording the elemental distribution of cultural traits across North America in order to trace their evolution and write the culture history of indigenous populations. This work greatly informed Kroeber's observation of culture as superorganic, a

phenomenon that develops according to internal laws and is immune to human intervention. The idea of culture as a superorganic phenomenon dominated anthropology in the following decades.

Kroeber's contributions to anthropology's subfields of linguistics and archaeology were remarkable. Understanding language to be the ultimate cultural trait, he recorded several disappearing languages during his fieldwork among California's indigenous populations. In his work on kinship terms, Kroeber developed what would later be termed *componential analysis*, in which language, when broken down into constituent components, could be categorized according to designated criteria. Kroeber was drawn to archaeology due not only to his curatorial responsibilities, but also in his quest to reconstruct American Indian culture histories. In his excavation and research in the American Southwest, the Valley of Mexico, and Peru, Kroeber was most concerned with ceramic styles and sequences. As a result, he introduced seriation into archaeological research, by which material culture is arranged in the order that produces the most consistent patterning of their cultural traits.

— Benjamin W. Porter

See also **Anthropology, Cultural**

Further Readings

- Kroeber, A. (1948). *Anthropology: Race, language, culture, psychology, prehistory* (2nd ed.). New York: Harcourt, Brace.
- Kroeber, A. (1952). *The nature of culture*. Chicago: University of Chicago Press.

**ALFRED LOUIS KROEBER**

Cultural anthropologist Alfred Kroeber is best known for his work with indigenous peoples of North and South America. Following in the steps of his teacher and mentor Franz Boas (1858–1942), Kroeber and anthropologist Roland B. Dixon (1875–1934) devised new classifications for American Indian languages. While at the University

of California, Berkeley, Kroeber also became involved with examining the Peruvian pottery collection excavated by Max Uhle (1856–1964). In 1926, Kroeber and Donald Collier traveled to Nazca on the south central coast of Peru to excavate cemetery sites in order to learn more about pottery styles of ancient civilizations.

Kroeber's 1928 account of the expedition has become a classic work in anthropology, arousing interest in Peruvian archaeology and influencing the work of generations of anthropologists. Edited by Patrick H. Carmichael, Kroeber's *The Archaeology and Pottery of Nazca, Peru* was reprinted in 1998, further demonstrating that Kroeber's detailed documentation has continued to set high standards for the rapidly expanding field of Peruvian anthropology.

On the basis of new radiocarbon dating methods, archaeologists in Peru announced in 2001 that the site of Caral is now believed to be the oldest city located in the Americas. Caral, which is located some 125 miles north of Lima, is now thought to date to 4,090 years ago. Under the leadership of Winifred Creamer of Northern Illinois University and Jonathan Haas of the Chicago Field Museum, archaeologists uncovered a vast complex of ceremonial and administrative buildings.

Caral is one of the largest cities located in the Supe Valley, where a number of other ancient sites have also been discovered since excavations began in 1941. The Supe Valley extends some 90 kilometers from the Pacific coast to the Andes Mountains. Examination of the Caral site has revealed that its residents lived on vegetables and seafood rather than on various grains as was more common at the time. Evidence of irrigated farming has also survived. Archaeologists have identified sophisticated architecture that includes low platforms, hearths, terraces, enclosures, and a sunken, circular plaza. Archaeologists who examined a present-day canal believe that a prehistoric canal existed in the same location.

New discoveries continue in Peru; in February 2005, archaeologists announced the discovery of some 50 etched figures found on the hills of the south coastal area of Palpa that likely predate the earlier discovery at Nazca of similar figures.

According to Johnny Islas of the Andean Institute of Archaeological Studies, the figures at Palpa (depicting human beings, birds, monkeys, and felines) are assumed to have been created by the Paracas between 500 and 100 B.C.E.

– Elizabeth Purdy

KROPOTKIN, PRINCE PETER A. (1842–1921)

Peter (Pytor) Alekeyevich Kropotkin was a revolutionary and a philosopher; he was known for his works in other fields such as zoology, anthropology, and sociology. Kropotkin was the son of Prince Aleksey Petrovich Kropotkin of the old Russian aristocracy. He was educated in the elite Corps of the Pages, a special military school for boys of noble birth. From 1862 to 1867, Kropotkin served in the Army as an officer in Siberia; while there, he carried out original studies on cartography and geomorphology. Kropotkin proved that eastern Siberia was acted upon by post-Pliocene, continental glaciations. He found similar evidence in Finland and Sweden, thus theorizing that glaciers had once covered the northern plains of Eurasia and North America. A prolific writer, he developed his theories of libertarian communism on the principle of mutual aid, while observing tribal communities and the social life of the wild animals in Siberia.

As a result of his studies of animal life, Kropotkin theorized that mutual aid was the key to understanding human evolution. Most animals live in societies; Kropotkin believed that the survival strategy of safety was a concept needing closer examination, not just as a struggle for existence, but as protection from all natural conditions any species may face. Each individual increases its chances for survival by being a member of a group. Mutual protection allows certain individuals to attain old age and experience. With humans, collective groups allowed for the evolution of culture.

In the earliest band societies, social institutions were highly developed. In the later evolution of clans and tribes, these institutions were expanded to include larger groups. Chiefdoms and state societies

carried this mutual identity to groups so large that an individual did not know all members. The idea of common defense of a territory and the shared character of nationalism appears in the growth of the group sharing a collective distinctiveness.

Kropotkin believed that science and morality needed to be united in the revolutionary project; education ought be global, humanistic, and empower everyone equally, and children should learn not only in the classroom, but also in nature and in living communities.

Mutual aid remains a necessary part of the life of any family, band, city, or nation. It becomes even more important for smaller groups in surviving the rule of an elite. Mutual aid becomes the foundation for our ethical systems; ethics is the basis of our biological evolution, and in this morality lies our collective material existence in nature. Kropotkin claims anarchism would extend mutual aid from family to include all of humanity. This idea of *universal ethics* is the origin of all universal religions and philosophies.

Kropotkin's economic analysis began not with production, but with consumption established upon human needs. Needs are the starting point of production decisions; needs should not be determined by the greed and avarice of the individual. Economies should guarantee that all peoples' needs are met with the least waste of energy. Hunger and want is the fault of an improper economic system, and not the fault of nature. Only an economy of mutual aid can meet all peoples' needs; these needs include not only biological needs, but also all creative and emotional needs to live for the purpose of living the most meaningful life possible. Artistic creativity and concern for the well-being of oneself and others is the foundation for social morality, artistic creation, and the will to work at jobs that benefit the community.

According to Kropotkin's theory, each community would produce as much of its local needs as possible, exchanging only what it can produce in surplus for what it cannot produce. Mutual aid and voluntary cooperation eliminate the need to motivate labor through greed, hunger, or coercion. Kropotkin stated that even those who do not work should be fed, as they are but the "ghosts of bourgeois society." He felt strongly that most people would contribute to the well-being of others as long as they freely chose to do so.

Kropotkin believed that people easily can have all they need to be truly happy and healthy, and to live a



Source: Courtesy, Wikipedia

meaningful life. In labor, work and art must be united. Through the rotation of jobs, all people share in both the noxious and creative work. Joy and responsibility cannot be separated. The separation of mental and physical labor can be eliminated. Decentralization can help reduce the poverty of separation of humans from nature.

Kropotkin believed it is possible for people to create a society in which unbridled wealth as well as all poverty can be eliminated. With wages or property, people could live in luxury with every need being met. This society can be achieved, Kropotkin wrote, only through propaganda of the deed, and through direct action. This unites a collective insurrection with a collective construction of society.

A large portion of contemporary social and biological science follows in the footsteps of Kropotkin's academic work. Responding to the social Darwinism of his day, he wrote his primary scientific work, *Mutual Aid: A Factor of Evolution*, arguing that a major factor in the evolutionary success of humans

was a predisposition to cooperate and share without the need for institutions such as the market or the state.

Research in anthropology has provided substantial confirmation to supporting mutual aid in non-market economies. Karl Polanyi, among others, has shown that a moral economy can and does exist. Anthropologists continually show extensive decentralized cooperation based upon reciprocity and redistribution. Marshal Sahlins writes that, in many cultures, selfishness is not rewarded. Substantivist economists have shown that people often give away substantial amounts of wealth. In many cultures, people actively cooperate against their own narrow self-interest. This is not simply “enlightened self-interest,” it is a genuine need for justice as its own justification. Biologists have acknowledged that competition among early human groups could have contributed to the evolution of cooperative behavior on the part of individuals. Both cooperation and competition has existed in the past.

In 1871, Kropotkin dedicated his life to social anarchism, mostly because of his observations of animal and human communities in Siberia during his military service. In 1874 he was imprisoned in Russia for his radical actions and beliefs. In 1876 he escaped and went into exile, fleeing first to Switzerland, then France, and finally settling in Britain in 1886. He supported the allies during World War I; because of this, he lost much of the respect he had held from his fellow anarchists. Because of the Russian Revolution, Kropotkin was allowed to return to Russia in June, 1917. Although Kropotkin was respected by both the Bolsheviks and the opposing forces, he was critical of both sides. After the Bolshevik Revolution succeeded in overthrowing the Revolutionary Provisional Government of Kerensky, Kropotkin strongly argued that a vanguard couldn't make a revolution; only the people can fight a revolution and establish freedom. The Bolsheviks did not listen; brokenhearted, Kropotkin died in his beloved Russia in 1921.

For anthropologists, Kropotkin's work on mutual aid is perhaps his most important contribution, not only in terms of his argument for the moral basis for communist anarchism, but also as the base for his theories of human evolution.

— Michael Joseph Francisconi

See also **Anthropology, Economic; Anthropology, Humanistic**

Further Readings

- Carter, A. (2000). Analytical anarchism: Some conceptual foundations. *Political Theory*, 28(2), 230–253.
- Kropotkin, P. (1967). *Memoirs of a revolutionist*. Gloucester, MA: Peter Smith.
- Kropotkin, P. (1967). *Mutual aid*. Boston: Extending Horizons.
- Kropotkin, P. (1970) *Revolutionary pamphlets*. New York: Dover.
- Kropotkin, P. (1989). *The conquest of bread*. Montreal, Canada: Black Rose.
- Woodcock, G. (1971). *Anarchism: A history of Libertarian ideas and movements*. New York: Meridian.
- Woodcock, G. (1971). *The anarchist prince: Peter Kropotkin*. New York: Schocken.

KULA RING

The term *Kula Ring* refers to the circulation of shell valuables between island communities in the Milne Bay Province of Papua New Guinea. Bronislaw Malinowski was the first anthropologist to document the exchange in a classic anthropological text, *Argonauts of the Western Pacific*, written in 1922. Anthropologists working in the latter half of the 20th century have clarified many of the local characteristics of the kula from different island perspectives.

Visualizing the exchange as operating within a ring is somewhat misleading, as not all island communities are involved, nor do all communities within islands participate in the exchange, although it could be argued that all people in the Milne Bay are affected to some extent by the exchange. The majority of shell valuables that circulate in the exchange are regularly diverted from the kula and put into other local exchanges to satisfy people's more immediate exchange obligations. Entrepreneurial skills are needed for the kula man (and sometimes woman) to find a replacement and reenter it into the kula; otherwise he will lose all standing as a reliable kula partner, thus affecting his career in the kula. Unmet kula obligations may also threaten his life.

There are two shell ornaments circulated against each other between kula partners. The armshell or *mwali* is made from shell belonging to the *Conidae*

family. Both ends are broken off and smoothed to leave a cylindrical armlet that is decorated with other shells, seeds, beads, and ornamental items. The armshells travel around the ring in a counterclockwise direction for the necklaces, or *soulava*, which travel in a clockwise direction. The necklace is made up of *Spondylus* and/or *Chama* shell roughly broken and then repeatedly smoothed between stone in a single, long strand of shells strung together to form the necklace. These, too, are highly decorated for aesthetic purposes. While armshells and necklaces are the primary objects exchanged in the kula, other valuables and locally produced resources (such as clay pots, greenstone, and ocher) are also exchanged as solicitary gifts.

Although there are local differences, as a general rule men only have kula partners on other islands. A man will have partners on one side of him from which he receives only armshells. He gives these to partners on the other side of him from whom he can expect to receive necklaces. This means that men have to cross the open seas to solicit and acquire their valuables. Kula protocol is all about attraction and persuasion. While Malinowski wrote that kula was a “very simple affair,” anthropologists have since documented the dangerous business of conducting kula. Partnerships are unstable because others desire the shell valuables they might hold and may persuade the trader to give up the shell to someone other than the intended partner. The consequences of this action include suspension of one’s kula career and even death threats. The most valuable shells invite jealousy and accusations of foul play in their acquisition, subjecting holders to attacks of sorcery. While participation in kula offers men status and prestige, it may also bring upon them disgrace and death.

Today kula continues to be a significant exchange between people in the Milne Bay. Indeed, people who now work and live outside of the province continue to conduct kula with others relocated in other towns, cities, and nations as well as with those within the Milne Bay. Instead of traversing the seas on specially constructed, decorated, and magically impregnated kula outrigger canoes, these partners travel by motored launches and airplanes.

—Shirley F. Campbell

See also **Malinowski, Bronislaw**

Further Readings

- Campbell, S. F. (2002). *The art of kula*. Oxford: Berg.
- Leach, J. W., & Leach, E. (1983). *The kula: New perspectives on massim exchange*. Cambridge, UK: Cambridge University Press.
- Malinowski, B. (1922). *Argonauts of the western Pacific*. London: Routledge & Kegan Paul.

KULTURKREISE

Kulturkreise (*culture circle* or *culture center*) is an early 20th-century German diffusion theory based on the belief that a cultural trait evolved in a specific area and then grew to encompass additional societies. According to this theory, the areas in which cultural traits evolved can be identified and the diffusion of the traits can be mapped. The work of Friedrich Ratzel (1844–1904) served as a motivating force for kulturkreise. Leo Frobenius (1873–1938), a student of Ratzel, developed the culture circle theory, and Fritz Graebner (1877–1934), a German ethnologist, utilized this theory in many of his studies on societies throughout the world.

Graebner’s research and publications helped popularize this school of diffusionist thought. While working at the Berlin Ethnological Museum, Graebner wrote about culture circles in Oceania. Later, he used the kulturkreise theory in a study focusing on the entire world, tracing the spread of an ancient culture’s traditions throughout the rest of the world in his best-known work on kulturkreise, *Das Weltbild der Primitiven: Eine Untersuchung der Urformen Weltanschaulichen Denkens bei Naturvölkern* (*The World View of Primitive Peoples: An Investigation of Archetypal World Outlook Thinking of Aboriginal Peoples*). The methodology outlined by Graebner served as a stimulus for later field research and led to the development of the culture-historical school of ethnology in Europe.

The goal of kulturkreise was to trace cultural traits from their specific origin through their spread to other cultures. It was believed that all cultural traditions originated within a few cultural centers, then spread through increasingly large circles to encompass additional cultural areas. The original cultural centers

were thought to contain discrete characteristics referred to as a culture complex (*Kulturkomplex*). Once the culture complexes were identified, the spread of culture could be traced.

Kulturkreise contrasted with the British school of diffusion thought associated with G. Elliot Smith and William Perry. The British school believed that ancient Egypt was the site for the development of the primary characteristics of modern civilization, and that the modern cultures that retained the civilized traits of ancient Egypt were the most evolved.

German-born Franz Boas, the founder of American anthropology, brought ingredients of the kulturkreise theory to the United States; however, he and other American anthropologists recognized the failures of the kulturkreise theory as a whole and instead focused on the development and diffusion of cultural traits in their historical context to identify connections between different cultures and their traits.

Diffusionist theories gradually lost fashion in anthropology and were replaced by the development of functionalist and structuralist theories. These forms of diffusion are viewed as extreme and not used by scholars today; however, anthropologists do acknowledge diffusion as a source of culture change.

— Kristine McKenzie Gentry

See also **Boas, Franz**; **Diffusionism**; **Functionalism**; **Structuralism**

Further Readings

- Graebner, F. (1924). *Das weltbild der primitiven: Eine untersuchung der urformen weltanschaulichen denkens bei*. Munich, Germany: E. Reinhardt.
- Kluckhohn, C. (1936). Some reflections on the method and theory of the Kulturkreislehre. *American Anthropologist*, 38(2), 157–196.
- Sieber, S. A., & Mueller, F. H. (1941). *The social life of primitive man*. St. Louis, MO: B. Herder.

!KUNG BUSHMEN

Strictly speaking, the !Kung are members of a Khoisan language family occupying the Kalahari regions of part of Namibia, Botswana, Angola, and

Zambia; however, the term has come to be used conventionally to refer to the forager peoples of the Western Kalahari surrounding the border between Namibia and Botswana. Specifically, the term is often applied to the Ju/'hoansi—a forager group belonging to the !Kung language family. The confusion over this set of nomenclature stems from changing trends in political preference both among !Kung-speaking peoples and anthropologists. For the sake of continuity, the term !Kung will be used here in its older, conventional sense.

For several reasons, research concerning the !Kung was extremely important within the ecological anthropology of the second half of the 20th century. First reason is the idea, which even extends as far back as early Enlightenment thought, that foragers are somehow closer to nature or to some original state of humankind. This idea was very important to foundational cultural ecologists such as Julian Steward, and also to contemporary anthropologists dealing with issues of human evolution. The second important reason was the understanding that humans had evolved as foragers and had lived with that economic lifeway for the vast majority of human history. For these reasons, there was a great deal of interest in the !Kung and other Kalahari foragers as possible evolutionary models.

Evolutionary Models Based on the !Kung

The earliest major anthropological research in the Kalahari was done by members of the Marshall family. Beginning her second career as an anthropologist in the 1950s, Lorna Marshall offered early descriptions of !Kung economic and social behavior. Most important among these were her early accounts of sharing and reciprocity networks, which became a key long-term research focus among the !Kung. Marshall depicted the !Kung as gentle and nonviolent people living in peace, with egalitarian social and economic practices and no differentiation in status between individuals. She saw a society in which all economic resources were shared, accumulation of resources was not tolerated, and status differences were quickly and forcefully diffused. Despite this somewhat utopian flavor, Marshall's ethnography was excellent in its detail and extremely influential in its effect on contemporary anthropologists dealing with foragers. In addition, her accounts influenced a great deal of the evolutionary thinking of the 1960s and

established food sharing as an important feature of early hominid evolution. Filmmaker John Marshall captured vivid images of the !Kung that became prominent features of anthropology classrooms around the world for decades, further securing the place of !Kung as evolutionary models even in the minds of lower-level students. John Marshall filmed his important images of the !Kung over a long span of time, documenting the changes in !Kung culture during this time. Thus the Marshalls established the persistent and popular image of the !Kung as isolated, autonomous, egalitarian foragers living in a manner very close to the earliest humans. Harvard physical anthropologist Sherwood Washburn, in the latter part of his career by the 1960s, was also important in promoting forager research in order to document analogues with which to understand the past and build evolutionary models.

Due to this early information, a generation of ecological and evolutionary anthropologists made their careers working with the !Kung in the Kalahari. Perhaps the most prominent of this generation was Richard Lee. Working under the direction of Washburn's student, Irvan Devore, Lee went to the Kalahari to gather information concerning the economics and social organization of foragers to use as a baseline in formulating a synthetic model. Lee elaborated on Marshall's description of the !Kung as having an egalitarian social and political structure, focusing on the strong sharing and leveling norms of the !Kung. He saw these features as ways of dealing with economic dynamics of the forager lifeway. Lee viewed sharing as a way of coping with resources, such as large animals that are cooperatively hunted and too large to be consumed by individuals of close kin units. During this time period, Lee saw this egalitarianism as a feature of all forager societies, a feature also evident in models of human evolution during the 1960s. These ethnographic features of the !Kung continue to figure prominently in current discussion.

Lee's work in the Kalahari was the cornerstone of the important *Man the Hunter* conference convened in Chicago in 1966. Lee and Devore put together the *Man the Hunter* conference with the idea of establishing hunter-gatherers as a cultural type defined by a fixed set of cultural features. This conference brought together the elite scholars working with foragers either archaeologically or ethnographically, and has had a long-lasting impact on the field. Lee and Devore sought to establish the view of all

hunter-gatherers as egalitarian, with strong sharing and leveling norms and extensive reciprocity networks—a view taken directly from ethnography of the !Kung. This kind of forager research (and particularly that among the !Kung in the Kalahari) came to constitute a paradigmatic industry within the anthropology of the 1960s and 1970s. The model that emerged stated that humans evolved from early australopithecines through the increased hunting of large animals, which stimulated social food sharing, more complex social organization, larger brains and other anatomical changes. This relationship between hunting, food sharing, and complex social organization stemmed directly from these early ethnographic accounts of the !Kung.

The central features of the !Kung economic and social systems that continued to be elaborated upon were the prominent egalitarian sharing and leveling mechanisms and food sharing practices. In particular, a great deal of attention was paid to the *xaro* reciprocity networks; this topic was addressed notably in the research of Polly Wiessner. *Xaro* networks were pathways along which prestige items (jewelry, arrows, etc.) were exchanged, denoting important relationships in terms of individual group membership, residency, and access to resources. Wiessner argued that these exchange pathways, sharing and leveling practices, and food sharing were ways of managing the risk inherent in the forager lifestyle. For example, foragers are susceptible to resource shortages, and hunting is a risky economic practice prone to frequent failure. In addition, successful hunts result in the acquisition of meat packages too large to be consumed by individuals or strictly kin units, and therefore can sensibly be shared. Finally, sharing is the logical outcome of corporate labor practices such as hunting. Shared labor investment results in sharing of the final product. With these explanations as central features, the egalitarian sharing practices and reciprocity networks of the !Kung became vital aspects of evolutionary theory.

Revision and the Kalahari Debate

The direct analogy of the modern, living !Kung with the earliest time periods of human evolution was not without its political problems. By the early 1980s, an important critique was emerging. Critics such as Carmel Schrire, John Denbow, and Ed Wilmsen suggested that !Kung were not isolated, but instead had

been incorporated in regional economic networks for thousands of years. In addition, the !Kung were not autonomous, but had actually been exploited by neighboring ethnic groups in varying degrees over the last several millennia. Finally, they suggested that the !Kung were not entirely foragers, but had lived with mixed economies in relationships with neighboring groups in the past. The critics argued that evolutionary models based on !Kung ethnography were problematic in the sense that they promoted an image of primitive backwardness, or “fossils” of Stone Age. In short, these critics suggested that much of what anthropologists like Lee were describing as innate features of forager peoples were, in fact, the result of historical relationships, and were actually symptoms of rural poverty.

The debate that ensued (often glossed as the “Kalahari debate”) was acrimonious and divisive among anthropologists working with the !Kung. Lee and his followers continued to promote the !Kung as forager analogues appropriate for interpretation of the past. Wilmsen and his followers continued to reject this practice on both intellectual and political grounds. From this context, most recent studies have focused on variability and diversity among forager groups, particularly the !Kung. Prominent among this set of researchers was Susan Kent, who argued that using the !Kung as a kind of modal forager society denied the variability inherent among all foragers. Instead, she argued, it is more productive to document this variability, understand its causes, and use this knowledge to understand variability in the past. This approach is also advocated by Robert Kelly and Lewis Binford in their recent synthetic volumes concerning forager societies. The !Kung continue to be incorporated into evolutionary models, but not as direct analogues or fossils of the human evolutionary past.

Current Lifeways

Today the !Kung live mainly in Namibia and Botswana, incorporated into global economic networks. In Namibia, the !Kung participated as soldiers in the Namibian war for independence, drastically changing their economic systems and dramatically increasing the importance of cash economics. The !Kung fought mainly on the South African side of the conflict, and this provided a considerable amount of cash income to numerous !Kung men who chose to

participate. Following the end of the war, despite the disappearance of the prominent military incomes, wage labor and cash continued to be primary economic pathways. Currently, tourism and government agencies provide the bulk of employment, and state-paid, old-age pensions inject a good deal of cash into the region. On the Botswana side, where military employment was never present, the !Kung continue to participate in patron–client employment relationships with local Tswana herders in the context of difficult and controversial relationships with the government. Nongovernmental Organizations (NGOs) on both sides of the border provide important resources, and many anthropologists have important relationships with these NGOs. Finally, foraging continues to be an important practice for both economic and cosmological reasons despite the important role of cash economics. In many respects, future prospects look bleak as the !Kung are confronted by a lack of economic development and increasing dissolution of foraging opportunities in the context of Third World African poverty and global economic systems.

— Grant S. McCall

See also **Binford, Lewis Roberts; Steward, Julian H.; Washburn, Sherwood L.**

Further Readings

- Kelly, R. L. (1995). *The foraging spectrum: Diversity in hunter-gatherer lifeways*. Washington, DC: Smithsonian Institution Press.
- Marshall, L. (1961). Talking, sharing and giving: Relief of social tensions among the !Kung bushmen. *Africa*, 31, 231–249.
- Marshall, L. (1976). *The !Kung of Nyae Nyae*. Cambridge, MA: Harvard University Press.
- Lee, R. B. (1979). *The !Kung San: Men, women and work in a foraging society*. Cambridge, UK: Cambridge University Press.
- Lee, R. B., & Devore, I. (Eds.). (1968). *Man the hunter*. Chicago: Aldine.
- Schrire, C. (1980). An inquiry into the evolutionary status and apparent identity of San hunter-gatherers. *Human Ecology*, 8, 9–32.
- Wiessner, P. (1982). Risk, reciprocity and social influences on !Kung San economics. In E. Leacock & R. Lee (Eds.), *Politics and history in band societies* (pp. 61–84). Cambridge, UK: Cambridge University Press.

Wilmsen, E. N. (1989). *Land filled with flies: A political economy of the Kalahari*. Chicago: University of Chicago Press.

Wilmsen, E. N., & Denbow, J. R. (1990). Paradigmatic history of the San-speaking peoples and current attempts at revision. *Current Anthropology*, 31, 489–524.

KWAKIUTLS

Kwakiutl is the name given to the people of one of the tribes of British Columbia who know themselves as the *Kwakwaka'wakw*, and have five dialects to their Kwak'wala language that stems from the Wakashan phyla. The Kwakiutl are concentrated on the northern end of Vancouver Island, and have constructed a communal lifestyle, for the most part, living on the fringes of the boreal forests. The Kwakiutl developed knowledge of the taking and use of salmon and cedar. From

the plentiful cedar, the Kwakiutl made clothes, houses, ceremonial regalia, baskets, storage and serving utensils, canoes for transportation, and totem poles (some of the tallest in the world) carved to display family crests in demonstrations of lineage and status.

The Kwakiutl are best known for their Winter Ceremonials called *T'seka*, the potlatches where they competed with wealth, and the Hamat'sa, or Cannibal Dancer initiation rituals. When Europeans arrived in the northwest Americas, mercantilism was promoted and consequently affected every part of tribal lifestyle including clothing, food, transportation, hunting and cooking gear, and the symbols of value within the potlatch. As the ceremonial value or prestige of goods was transformed, the Kwakiutl became infamous for their potlatch wars and related activities. In 1884, the Canadian government enacted a law prohibiting the practice of the potlatch; in 1921, Indian agent William Halliday began arresting potlatch attendants, with sentences to prison for not less than two months. The potlatch artifacts that were confiscated were placed in museums and/or sold. In 1951 the law against the potlatch was removed.



The Kwakwaka'wakw Hamat'sa or Man-Eater dance

Source: Photograph by Eva Grainger, reprinted courtesy of U'mista Cultural Society, Alert Bay, British Columbia, Canada, www.umista.org



Canoes from Canada and Washington state waiting to be welcomed by the Port Gamble S'kallam Tribe in Washington.

Source: Photograph by Pamela Rae Huteson.

During the generations subjected to “civilization,” some of the culture and the Kwak’wala language fell into disuse.

Lifestyle

Salmon was a food source that not only sustained the villagers through the winter, but also played a role in establishing social technologies that created a people who used salmon and other surplus foods like dried halibut in feasts, coupled with oratory edifying of the known cosmology, which assisted in forming a “moral universe” society. This philosophy both honored and demonstrated a kinship with all life, earthly and supernatural. Much like the Koyukon in Alaska, the Kwakiutl also follow the respectful etiquette of returning the bones of the salmon to the sea after eating, a procedure showing respect to the fish in order to seek favor and to ensure the perpetuation of abundant salmon runs and harvests. In addition to salmon, halibut, and other fish, Kwakiutl subsistence included a variety of berries and crustaceans, supplemented by hunting and digging edible roots. Dried salmon, halibut, and deer were stored in large

amounts to ensure survival through the winter, with winter feasting in mind.

The cedar was of inestimable value to the Kwakiutl, as all parts were utilized: bark, roots, wood, and withes. Wood was the base element for shelter, transportation, totemic displays, and bentwood boxes that held valuables such as blankets, masks, and copper shields. Cedar products were made not only for survival, but also as prestige items used in feasts and potlatches. To obtain the tree that would be best for a long house or canoe required skill in detecting the soundness of a tree; but most important, it required the prayers and intuitiveness to be drawn to the right tree, as the Kwakiutl believed it is the tree that offers itself.

Similar to their northern neighbors, the Haidas and Tlingits, the Kwakiutl were a society of established rank of strict stratification, from the chief at the top, through various ranks from high, middle, and low caste, and then debtors and captured slaves. The complexities of Kwakiutl life included etiquette that was strictly followed, such as the correct procedure of placing food in one’s mouth, how to chew, and other ways to avoid vulgarities. Name, rank, and property were claimed and given during potlatch times. Property consisted of dances, songs, and history of

origins; supernatural ancestors; and masks. Feasts could be held for weddings, memorials with a memorial pole, welcoming, naming of children, and for winter ceremonies. Formal invitations and strict protocols were observed at festivities, not the least of which involved refusing an invitation until the fourth time it was extended. In a competitive potlatch, canoes might be burned, copper shields broken or “drowned,” blankets destroyed, and even slaves killed. In Kwakiutl antiquity there were few potlatches given, for these were costly affairs requiring several years to accumulate enough gifts for payments.

European Contact

New prestige items produced through modern European technology made their way through the barter system into the villages, metamorphosing within the Kwakiutl’s spiritual and daily activities. Before Hudson Bay blankets replaced fur pelts in the value system, only the elite could give pelts during a feast due to the special value of the pelt, which was not only the coat of an animal, but also had a spiritual significance representing the power and spirit of the animal. There were strong beliefs throughout the northwest coast tribes that animals also had villages, and without their coat of fur or feathers, they would appear as humans. Fur trade with the Europeans brought the much-coveted “modern” conveniences such as metal, pots and pans, china, clothing, fabric, as well as beads and blankets. Difficult questions had to be answered to adapt the conversion of pelts to the common Hudson Bay blanket, but by the time Boaz met the Kwakiutl in 1886, there was already an established value system surrounding exchange with these blankets of newly bestowed value.

Potlatches captured the imagination of newcomers to the Kwakiutl area, and they became highly



Repatriated masks from the Royal Ontario Museum

Source: Photograph by Vickie Jenson, reprinted courtesy of U’mista Cultural Society, Alert Bay, British Columbia, Canada, www.umista.org



Dancers at the 2003 Tulalip Canoe Quest celebration

Source: Photograph by Pamela Rae Huteson.

controversial among missionaries such as Thomas Crosby, who experienced culture shock in discovering the customs such as dancing. Crosby expressed the horror of witnessing a man cutting himself during a dance, but also explained how a chief felt that a “white man’s dance” of holding another man’s wife while dancing was worse. The barter marriage among the Kwakiutl brought the most criticism from outsiders. Although the marriages for young girls were a sham, existing only to build the status of the girl and ending

when the young lady reached her first menses, the practice prompted those such as Reverend Alfred James Hall and his wife to have Girl's Homes built, where girls could live until they were at least 16 years old. The media's interest in the potlatch and barter marriages bordered on sensationalism, which brought even more discontent among the settlers and citizens of Canada. Missionaries were given the task to "civilize" the Kwakiutl and other tribes of the northwest.

Ban of the Potlatch

A law prohibiting the potlatch finally passed in 1885, but alterations to this law were necessary for the courts to be able to act on it. Indian agent William Halliday aggressively sought to destroy the potlatch by the indictment and sentencing of its participants, as well as by the confiscation of any potlatch paraphernalia and statements from the accused that they would never potlatch again. In response, people concealed potlatch locations and camouflaged the distribution of gifts and property under the guise of Christmas or other types of gift-giving events, as well as separating the events of dancing and gift giving in order to stay within the law. In 1951, the Canadian Indian Act was revised (sans anti-potlatch laws).

Kwakiutls Today

The Kwakiutl have succeeded in gaining restoration of some of their confiscated treasures and have built two museums to house them: the Kwakiutl Museum and the U'mista Cultural Centre. Since English had become the dominant language, tribes like the Kwakiutl have been attempting to bring their language back.

Today the potlatches are not only reestablished, but are even increasing in popularity. New canoes are being carved, not just for artistic enjoyment, but also for use in canoe races at festivals and the new trend of canoe voyages. Today, Kwakiutl canoe teams can be

seen training along the coastline, preparing for an annual event inclusive to all northwest coastal tribes that draws pullers (paddlers) from as far as the coast of British Columbia to Washington. Stops are made along the many villages up and down the northwest coast; a different final destination is set each year with a potlatch greeting the pullers when they arrive.

The Kwakiutl have been a historic presence along the northwest coast, with their world-famous potlatching and Hamat'sa secret societies. Today they are translating that traditional role into a positive, contemporary one by sharing their culture internationally through art, stories, language, and history; thereby instilling pride in their tribe and communities and giving them international prominence.

— Pamela Rae Huteson

See also **Boaz, Franz**

Further Readings

- Anderson, M. & Halpin, M. (Eds.), (2000). *Potlatch at Gitsequkla: William Beynon's 1945 field notebooks*, Vancouver, BC: University of British Columbia Press.
- Boaz, F. (1975). *Kwakiutl culture as reflected in mythology*. Millwood, NY: Kraus Reprint.
- Crosby, T. (1907). Among the An-Ko-Me-Nums. In C. Lillard (Ed.), *Warriors of the North Pacific* (pp. 63–124). Victoria, Canada: Sono Nis Press.
- Dietler, M., & Hayden, B. (Eds.). (2001). *Feasts: Archaeological and ethnographic perspectives on food, politics, and power*. Washington, DC: Smithsonian Institution Press.
- Jonaitis, A. (Ed.). (1991). *Chiefly feasts: The enduring Kwakiutl potlatch*. Seattle University of Washington Press; New York: American Museum of Natural History.
- McFeat, T. (Ed.). (2002). *Indians of the North Pacific coast: Studies in selected topics*. Seattle: University of Washington Press.