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A Genesis Model for the Origin, Variation, and Continuation of Human Populations

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Abstract

A model is presented based on a comprehensive analysis of Biblical references for the origin, variation, and continuation of human populations. This paradigm is compared to a breadth of paleontological, bioanthropological, and archaeological evidence regarding human origins. The model provides a more comprehensive explanation for the array of human origins data, especially the (1) alleged evidence for the greater antiquity of anatomically modern human bones, (2) the temporal coexistence of modern and non-modern human populations such as *H. erectus* and Neanderthals, (3) variation in the morphological traits of human populations, and (4) the continuation of only modern human populations or *Homo sapiens sapiens* into the present Holocene period.

Summary of Human Populations According to Genesis

The Bible states that Adam and Eve were created on the sixth day of Creation Week (Genesis 1:26–27; 2:7–8, 15–25). They had children (Genesis 4:1–2, 25; 5:3–4). These children had descendants (Genesis 4:17–23, 26; 5:6–32). As the descendants of Adam began to "multiply on the face of the earth," the sons of God took the daughters of men as wives (Genesis 6:1–2). Their offspring were the Nephilim (Genesis 6:4–5). Because the "evil of man was great on the earth" and "every imagination of the thoughts of his heart [was] only evil all the day long," God decided to destroy all mankind and terrestrial animals on the earth (Genesis 6:5–7). God selected Noah, his wife, their three sons, and the sons' wives to build an ark and to store two or seven of each animal kind on the ark in order to survive a pending worldwide flood (Genesis 6:13–7:10, 13–16). Noah was just and righteous and walked with God (Genesis 6:8–9). Noah was also a direct patrilineal descendant of Adam (Genesis 5:1–32) and perfect in his generations (Genesis 6:9). The Flood commenced. All humans, Nephilim, and terrestrial animals outside the ark perished (Genesis 7:21–23). The Flood stopped, the floodwaters abated, and Noah and his family left the ark along with the animals. The sons of Noah—Shem, Ham, and Japheth—and their wives had children and began to repopulate the earth (Genesis 10:1–32).

The Nephilim in Genesis 6

Genesis 6 discusses the emergence of the Nephilim [הנפלים]. Genesis 6:4–5 states:

> The Nephilim were in those days, and also afterwards, when the sons of God came in to the daughters of men, and they bore to them—they were the heroes, from ancient times, the men of name. And Jehovah saw that the evil of man was great on the earth, and every imagination of the thought of his heart was only evil all the day.

The account of the Nephilim has two major controversial themes. The first is the identity of the sons of God. One position holds that the sons of God

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represented angels sent to protect men. These angels abandoned their responsibilities and had children with the female descendents of Adam (Boice, 1982, pp. 244–249). Variations of this explanation include that fallen angels or possessed humans had relationships with these women (Morris, 1976, p. 166). Another, more symbolic, interpretation is that the sons of Seth took the daughters of Cain as wives (Schaff, 1977, p. 303; Schaeffer, 1972, p. 126).

The first position is the more literal understanding and therefore Biblically correct. The term "sons of God" [האלהים בני] is used only to describe angels throughout the Bible (Job 1:6; 2:1; 38:7). The punishment for this angelic transgression was that the sons of God were bound in chains of darkness in hell until Judgment Day (2 Peter 2:4–5; Jude 6–7).

The second controversy involving the Nephilim concerns their identifying characteristics, especially the inference of gigantism. Genesis 6 does not state that the Nephilim were giants. Instead, a later report in Numbers 13:32–33 is used to qualify the Nephilim as giants.

In this latter report, after Moses and the children of Israel left Egypt, God told Moses to send out twelve spies to perform a thorough reconnaissance of the land of Canaan (Numbers 13:1–20). The spies completed their mission and returned to give a report (Numbers 13:21–26). The reconnaissance team reported that the land was good and the cities were walled and described the geographical location of the various nations in Canaan (Numbers 13:27–29). At the conclusion of the report Caleb suggested that Israel should possess and overcome the country. Ten other spies disagreed (Numbers 13:30–31). At this time, the latter issued an evil report.

> And they sent out *an evil report of* [דבת] the land which they had searched to the sons of Israel, saying, "The land into which we traveled, to spy it out, is a land eating up its inhabitants. And all the people we saw in its midst were men of stature. And there we saw the Nephilim, the sons of Anak, of the Nephilim. And we were in our own eyes as grasshoppers and so we were in their eyes (Numbers 13:32–33).

The evaluation of the report by God and Moses was grim. The report was evil, slanderous, and it angered God (Numbers 13:32; 14:12, 36). God destroyed the spies that gave the evil report with a plague. "Even those men that did bring up the *evil report* [דבה] upon the land, died by the plague before the Lord" (Numbers 14:37).

When considering that the report was evil, the entirety of the report should be questioned, including the correlation between the sons of Anak and the Nephilim (Numbers 13:32; 14:36–37). Moreover, the association between the sons of Anak and the Nephilim is rejected by Scripture. First, with the exception of the evil report, there is no mention in the Bible of the Nephilim after the Flood. Second, since all the descendants of Adam, except for Noah and his family, perished in the Flood, no Genesis Nephilim could have survived into the Israelite era (Genesis 7:21–23). Third, there is no mention of the Anakim, Son's of Anak, or Rephaim, the usual translation for *giants*, before the Flood. The first reference to Rephaim occurs after the Flood, during the time of Abraham (Genesis 14:5; 15:20). Fourth, the sons of Anak were only three generations in duration: Arba, Anak, and his three sons—She'shai, Ahi'man, and Tal'mai—and were therefore not ancient (Joshua 14:12–15; 15:13–14; 21:11). Fifth, the sons of Anak were expelled from the land by Caleb and his sons (Joshua 15:13–14; Judges 1:20). Sixth, the Anakim were utterly destroyed by Joshua and his forces in Israel and had to survive in Gaza, Gath, and Ashdod (Joshua 11:21–22). Finally, other verses that mention the Anakim—and are not described as an "evil report"—refer to them as Rephaim [רפאים], the common and correct translation for *giants* throughout the Bible (Deuteronomy 1:28; 2:11, 20; 9:2). Throughout the Torah, others are also described as being tall in stature, giants, or Rephaim. These include the Emim, Zamzummim, King Og of Bashan, and Goliath and his sons. None of these individuals are described as Nephilim (Deuteronomy 2:11, 20; 3:11–13; Joshua 13:12; 2 Samuel 21:16–22; 1 Chronicles 20:4–8).

To sum up, it is Biblically impossible that the sons of Anak, with their gigantism, were from the Nephilim. An evil report was made by ten spies, which described the tall stature of the sons of Anak and associated them with the Nephilim (Numbers 13:32–33). This report was rejected by God, Moses, Caleb, and Joshua and caused God's judgment, and the subsequent death of the spies by a plague (Numbers 14:1–38). Outside this evil report, the equation of gigantism with the Nephilim is incongruous with Biblical references.

This evil report, for which the spies were executed by God in a plague, forged the association between the Nephilim in Genesis 6:1–5 and gigantism. This association, made in the milieu of evil, which brought the wrath of God, has been used to falsely define inerrant Scripture and has so influenced the modern Biblical lexicon that in most English translations Nephilim in Genesis 6 is erroneously and wrongly translated as giants. Furthermore, the evil report of the spies in Numbers 13:32–33 falsely equated the tall sons of Anak with the Nephilim, terrifying the Israelites by incorrectly giving these post-Flood sons of Anak attributes of ancient evil, physical prowess, legendary renown, and pre-Flood ancestry. This evil report has continued to influence the church and synagogues today, where scholars have looked for or expected giants among the descendants of Adam before the Flood, when there were in fact no giants but the true Nephilim: human-like populations that displayed physical prowess, a penchant for continuous evil, and a culture focused on valor, conflict, and self-aggrandizement. As gigantism is not one of the traits of the Nephilim, we must examine the true qualities of the Nephilim as reported in Genesis 6:1–5.

The name *Nephilim* is a derivation of the verb *naphal* [נפל] or he/it fell (Genesis 6:4). Hence, Nephilim is similar to the English equivalent of saying "the fallen ones" or "the fallen." This name separates these populations from direct descendents of Adam [אנשים], who were not related to or genetically impacted by the sons of God.

The references to the Nephilim that they "were in those days, and also afterwards" [בימים ההם וגם אחרי־כן] and being "from ancient times" [מעולם אשר] is telling (Genesis 6:4). That the Nephilim were from ancient times is a key statement dating the Nephilim to before the Flood. This phrase also provides a counter weight to those who wish to exploit the phrase that "the Nephilim were in those days, and also afterwards" to mean that these populations survived the Flood and exist with us today. The author of Genesis is referring to the previous verse in 6:1, where the first emergence of the Nephilim occurred "when men began to multiply on the face of the earth" (Genesis 6:1). The author then prevents the "and also afterwards" statement from being interpreted too broadly by stating that the Nephilim were dated to "ancient times" or "from old." The author of Genesis is stating that there were at least two periods during ancient times, before the Flood, that the Nephilim flourished. The first period (Genesis 6:1) occurred "when men began to multiply on the face of the earth"; the later period (or periods) occurred after this initial floruit: "and also afterwards" (Genesis 6:4). All periods of Nephilim prominence occurred before the Flood.

The Nephilim were heroes or *hagiborim* [הגברים] (Genesis 6:4). The word has several connotations: success in battle, extreme bravery, and physical combat. The Nephilim were also "the men of name" [אנשי השם] (Genesis 6:4). This is a phrase that is commonly and correctly translated as men of renown or roughly "famous." The author makes it clear that the Nephilim had tremendous reputation in the ancient world. That the Nephilim were both heroes and men of renown clearly indicates that these populations had tremendous physical prowess, which when tested, resulted in success and the aggrandizement of their personal reputations.

The Nephilim were humans (Genesis 6:4) but different from preceding human populations because of their unique ancestry, physical abilities, actions, and tremendous reputations that resulted from their acts. Hence, the clear characteristics that made the Nephilim different were: (1) their appearance, in that they could be differentiated from the original descendants of Adam; (2) their physical power and ability; and (3) their personas, in that they sought and accomplished actions of tremendous valor.

The Nephilim are also associated with intense and continuous evil in that "every imagination of the thought of his heart was only evil all the day" [:כל־היום וכל־יצר מחשבת לבו רק רע] (Genesis 6:5). The phrase suggests that all men and the Nephilim were evil. However, that this mention of evil immediately follows the description of the Nephilim as heroes and men of name, casts an ominous shadow over their populations and qualities.

The Nephilim and all men outside the ark were annihilated in their entirety by the Flood (Genesis 7:21, 23). Furthermore, the author of Genesis goes into tremendous detail documenting that Noah was a direct patrilineal descendant of Adam (Genesis 5:1–32). Finally, the Bible states that Noah not only found grace in the eyes of the Lord, was a just man, and walked with God, but he was also "perfect in his generations" [בדרתיו תמים היה], another telling statement as to Noah's direct genetic lineage from Adam (Genesis 6:9).

To sum, the Nephilim were the products of angelic and human couplings, evil acts that resulted in the damnation of their progenitors. Nephilim populations flourished at least twice before the Flood: as the descendants of Adam began to populate the earth and afterwards. Their populations were human, yet different and fallen. Their physical prowess enabled their success as they pursued aggressive acts that furthered their reputation. However, their heroism was not oriented toward altruism but toward their own vanity and search for reputation, as they schemed and successfully practiced continuous acts of evil. Nephilim populations were extirpated in their entirety by the Flood and most likely did not contribute to the genetic heritage of Noah and his descendants. Noah was a direct patrilineal descendant of Adam and untainted by the evil ancestry or acts of the Nephilim.

A Genesis Model for the Origin, Variation, and Continuation of Human Populations

According to Genesis, all human populations today are descended from Noah (Genesis 9:18–29; 10:1–32). Hence, all current populations of *Homo sapiens sapiens* or anatomically modern humans descend from Noah. If Noah was a direct patrilineal descendant from Adam (Genesis 5) and perfect in his generations (Genesis 6:9), being untainted by the fallen ancestry of the Nephilim, we should expect to find skeletal remains of *Homo sapiens sapiens* or anatomically modern humans in the earliest paleoanthropological contexts.

According to Genesis, the Nephilim emerged "as men began to multiply on the face of the earth" (Genesis 6:1) and flourished at least twice, or "in those days, and also afterwards" (Genesis 6:4); before they were annihilated in their entirety by the Flood of Noah (Genesis 7:21–23). According to the Biblical model, populations of direct descendants of Adam, Nephilim, and hybrids of these two populations coexisted until the Noachian deluge, which extirpated "all mankind" not on the ark, including all Nephilim populations (Genesis 7:21). According to Genesis, only Noah, his sons, and their wives survived (Genesis 8:18). God commanded them to multiply and fill the earth (Genesis 9:1), which they did (Genesis 9:18–29; 10:1–32).

The Genesis model of the origin, variation, and continuation of human populations is straightforward. At the earliest periods, we should expect to find humans similar to the populations of today that are anatomically much like ourselves, or *modern*. Later, we should expect anatomically modern humans, populations of Nephilim, and most likely hybrids between these populations coexisting on earth. During this time there should be at least two periods of fluorescence, when Nephilim populations thrived before their total global annihilation by the Flood catastrophe. After the Flood, we should see the emergence and repopulation of earth by only anatomically modern humans, which comprise our kind today. The scheme of the Genesis model for the origin, variation, and continuation of human populations is shown in Table I.

If today's anatomically modern human populations, *Homo sapiens sapiens*, are the direct descendants of Adam through Noah, then we should expect to find our suite of morphological traits in the earliest paleoanthropological contexts. Moreover, those human populations with morphological or genetic characteristics that differ from those exhibited by anatomically modern humans reflect (1) Nephilim populations or (2) hybrid offspring genetically influenced by the Nephilim. Therefore, all human populations with characteristics outside those of anatomically modern humans—including but not limited to some specimens attributed to *H. habilis* and *H. rudolfensis* and most remains attributed to *H. ergaster*, *H. erectus*, *H. antecessor*, *H. heidelbergensis*, *H. neanderthalensis*, and *H. floresiensis*—should be interpreted as Nephilim or populations genetically influenced by the Nephilim.

To test the Genesis model, there should be skeletal remains in early paleoanthropological contexts, which are more comparable to anatomically modern humans or *Homo sapiens sapiens* than non-modern populations. These remains should be associated with the earliest radioisotope dates, fauna, flora, or other indices that show these remains are older than assemblages from non-modern human populations.

Traditionally, evolutionists have claimed that human skeletons in early contexts that have a combination of traits similar to and unlike those of *Homo sapiens sapiens* represent our ancestors. However, in light of the Genesis model and the alleged remains of anatomically modern humans in extremely early

Table I. Genesis model for the origin, variation, and continuation of human populations.

Biblical Periods & Events	Populations in Genesis	Linnaean Classifications	Other Nomenclature
Modern times After the Flood	Direct descendants of Adam	*Homo sapiens sapiens*	Anatomically modern humans
Flood of Noah After that In those days As men began to multiply on the face of the earth	Direct descendants of Adam; Nephilim; and offspring of both	*Homo sapiens sapiens*, *H. habilis*, *H. rudolfensis*, *H. ergaster*, *H. erectus*, *H. antecessor*, *H. heidelbergensis*, *H. neanderthalensis*, *H. floresiensis*, and potentially other populations.	Anatomically modern humans and non-modern humans
Soon after expulsion from Eden	Direct descendants of Adam	*Homo sapiens sapiens*	Anatomically modern humans
Sixth Day of Creation Week	Adam and Eve		

contexts, these same assemblages may conversely suggest the greater antiquity of *Homo sapiens sapiens*. Non-modern human populations, such as *H. heidelbergensis*, with a combination of traits similar to and unlike those of *Homo sapiens sapiens*, would be descendants, not ancestors, of anatomically *modern* humans.

To test this Genesis model, we must evaluate whether the suite of characteristics found in non-modern humans resides in populations of anatomically modern humans. For example, if there are human populations living today that exhibit the set of traits found in *H. neanderthalensis or H. erectus*, this Genesis model would be severely challenged. Also, this Genesis model must be tested to ensure that other variables, besides the inherited genetic traits of the Nephilim, are not responsible for the suite of characteristics in non-modern human assemblages. For example, if it could be shown that great age, diseases such as rickets or syphilis, or mechanisms like strenuous chewing, or a combination therefore, could explain the range of traits found in non-modern humans, then this Genesis model would be disputable. The final test of this Genesis model is an evaluation of non-modern human populations, their culture, and behavior, to determine if they are similar to the description of the Nephilim in Genesis 6. If there is a stark difference between the Biblical description of the Nephilim in Genesis 6 and non-modern human populations and assemblages, this Genesis model would be in doubt.

Skeletal Remains Resembling Anatomically Modern Humans in Early Contexts

Evidence exists of anatomically modern human populations in contexts preceding non-modern (i.e., *H. habilis*; *H. ergaster*; *H. erectus*; *H. heidelbergensis*; *H. neanderthalensis; and H. floresiensis*) humans. Lubenow (1992, 2004) and Cremo and Thompson (1993, 1996, 1998), Christian and Hindu scholars, respectively, were the first to promulgate alleged modern human bones found in early paleoanthropological contexts (Table II).

Richard Leakey and W. W. Howells rejected the assertions of Lubenow (1992, 2004) and Cremo and Thompson (1993, 1996, 1998). However, these researchers derived their ideas from the work of Howells, the Leakey family, and others, who asserted that remains resembling anatomically modern humans were found in early contexts at their excavations. These remains were carefully mitigated and their initial proveniences and date ranges were cautiously made relative to current archeometric assumptions and methodologies. Finally, all remains were preserved; casts were made of each that can be readily obtained for future comparative analyses.

A distal humerus fragment [KNM KP 271] from Kanapoi, Kenya, was discovered in 1965 by W. W. Howells, professor of anthropology at Harvard, and Bryan Patterson, the Agassiz Professor of Vertebrate Paleontology at Harvard University. Howells pioneered the use quantitative methods in biological anthropology.

The consensus for the date of this specimen is between 3 and 3.5 mya and is based on the color, hardness, degree of mineralization of this and related artifacts, its similar preservation to other specimens under the capping lava, potassium-argon dates from the lava layer between 2.9 and 2.5 mya, paleomagnetic analyses showing reverse polarity, which was correlated to Matuyama Reverse Epoch and dated to around 2.5 mya, and associated faunal remains that correlated to a date range between 4 and 4.5 mya (Patterson and Howells, 1967; Senut, 1979, p. 113).

Later, Henry McHenry, a student of Howells, and Robert Corruccini reanalyzed the specimen and subsequently obtained sixteen different measurements and compared them to anthropoid apes, monkeys, modern humans, the robust australopithecines from Kromdraii [TM 1517e] and East Rudolf [KNM ER 739]. These researchers suggest that the distal humerus fragment, KNM KP 271, from Kanapoi resemble those of anatomically modern humans or *Homo sapiens sapiens*.

> There are individuals in our sample of [modern] man on whom measurements … of Kanapoi Hominoid I can be duplicated almost exactly (Patterson and Howells, 1967, p. 66).
>
> A humerus fragment has been found at Kanapoi that is almost five million years old yet almost indistinguishable in shape from many modern humeri (McHenry, 1973, p. 740).
>
> The hominid fossil from Kanapoi resembles *Homo sapiens* very closely (McHenry and Corruccini, 1975, p.227).
>
> The Kanapoi fossil is quite close to *Homo*, especially the Eskimo sample (McHenry and Corruccini, 1975, p. 235).
>
> The Kanapoi humerus is barely distinguishable from modern *Homo* (McHenry and Corruccini, 1975, p. 240).
>
> The phenetic position of the Kanapoi fossil is more surprising for the fact that it is so distant from the other fossil hominids (McHenry and Corruccini, 1975, p. 240).

A team of researchers, led by Jean Chavaillon, retrieved a distal humerus [Gombore IB 7594] from the Gombore site, 55 kilometers south of Addis Ababa, Ethiopia (Chevaillon et al, 1977). The dates for this artifact, between 1.5 and 1.7 mya, were based on potassium-argon dates of 1.5 mya for the basalt layer at Gombore and the corresponding lithic assemblage at Gombore, which was similar to upper Bed I or lower Bed II at Olduvai Gorge in Tanzania (Senut, 1979). The latter assemblage is dated to 1.7 mya via radiometric dates, paleomagnetic analyses, associated fauna, and

Table II. Possible remains of anatomically modern humans in early paleoanthropological contexts. Columns exhibit the original excavator(s), location, alleged date range, contextual information, comparative skeletons, and cited publications.

Excavator	Locale	Skeletal Part	Date Range	Dating Methods	Comparison Material	Studies
Bryan Patterson & W.W. Howells	Kanapoi, Kenya	Distal Humerus [KNM KP 271]	3–3.5 mya	Color, hardness, degree of mineralization, preservation similar to other specimens under capping lava; potassium-argon exhibited dates between 2.9 and 2.5 mya; paleomagnetic tests showed a reverse polarity correlated to Matuyama Reverse Epoch around 2.5 mya (Patterson and Howells, 1967); faunal remains associated with Kanapoi dated between 4 and 4.5 mya (Senut, 1979, p.113).	Modern human, chimpanzee, and robust australopithecine: Kromdraii TM 1517 (Patterson and Howells, 1967). Anthropoid apes (KNM-RU 2036 AH; KNM-RU 2097; KNM-FT 2751), monkeys, modern humans, the robust australopithecines: Kromdraii TM 1517 and East Rudolf KNM ER 739 (McHenry and Corruccini, 1975; Oxnard, 1975).	Patterson and Howells, 1967; Senut, 1979, p. 113; McHenry, 1973; McHenry and Corruccini, 1975; Oxnard, 1975.
Jean Chavaillon	Gombore, Ethiopia	Distal Humerus [Gombore IB 7594]	1.5–1.7 mya	Potassium argon dates from basalt older than 1.5 mya; Oldowan lithic assemblage associated with site similar to upper Bed I or lower Bed II at Olduvai in Tanzania dated to 1.7 mya by potassium-argon methods (Senut, 1979).	Great apes, modern humans, Plio-Pleistocene hominids including KNM KP 271 (Senut, 1979, 1981a, 1981b).	Chevaillon et al., 1977; Senut, 1979, 1981a, 1981b.
G.W. Barlow & Robert Broom	Sterkfontein, South Africa	Distal Femur [Sterkfontein TM 1513]	2.2–3 mya	Associated with australopithecine remains (Broom, 1951, p. 44); in sedimentary rock deposits dated between 2.2 and 3.0 mya (Groves, 1989, p. 198).	Cercopithecid monkeys, African apes, gracile and robust australopithecines, and modern man (Tardieu 1981, pp. 77–79).	Broom, 1951; Zuckerman, 1954; McHenry, 1972; Tardieu, 1981.
Juma Gitau & Louis Leakey	Kanam, Kenya	Mandible	1.7–2 mya	Associated with teeth from Mastodon and *Deinotherium* (Oakley et al., 1977, pp. 166, 169); encased in same block of travertine as fauna and rudimentary pebble tools with preservation identical to Lower Pliestocene fauna (Leakey, 1960, pp. 202–203); flourine, nitrogen, and uranium content tests (Oakley, 1974, 1975).	*Homo sapiens sapiens*, Neanderthals, *H. erectus*, australopithecines (Keith, 1935, p. 163; Tobias, 1962, p. 345;1968, pp. 180–181).	Woodward et al., 1933; Broom, 1951; L. Leakey, 1960, 1972; Cole, 1975; Cooke, 1963; Tobias, 1962, 1968; Groves, 1989.

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Table II (continued)

Excavator	Locale	Skeletal Part	Date Range	Dating Methods	Comparison Material	Studies
Louis Leakey	Kanjera, Kenya	Cranium	400–700 kya	Associated with fauna from 700–400 kya similar to Bed IV at Olduvai Gorge (Cooke, 1963, p. 629); Lithic assemblage comprising Chellean tools and fauna equivalent to Bed IV at Olduvai Gorge (Leakey, 1960, p. 204); flourine, nitrogen, and uranium content tests (Oakley, 1974, 1975).	Australopithecines, Neanderthals, *H. erectus*, and *Homo sapiens sapiens* due to "no trace of a bony brow-ridge above the eyes" (L. Leakey 1960, p. 203; Groves 1989, p. 291).	Woodward et al., 1933; Broom 1951; L. Leakey, 1960, 1972; Cole, 1975; Cooke, 1963; Groves, 1989.
B.A. Wood	Kooba Fora, Eastern shore of Lake Turkana, Kenya	Talus [ER 813]	1.5–1.9 mya	Found between KBS Tuff (2.6 mya) and overlying Koobi Fora Tuff (1.57 mya—Wood, 1974, p. 135; KBS Tuff dated between 2.6 and 1.6 mya (Fitch and Miller, 1970; Curtis et al., 1975); samples in KBS Tuff of normal polarity associated with Gauss Normal Epoch between 2.48 and 2.92 mya (Brock and Isaac 1974, p. 346); pig teeth below KBS Tuff similar to Ethiopian pigs dated to 2 mya (Cook, 1976).	Modern humans, gorillas, chimpanzees, arboreal apes (Wood, 1974, p. 135, 1976, pp. 500–501); Modern humans and australopithecines (Oxnard, 1975, p. 121).	Wood, 1974,1976; Oxnard, 1975; Fitch and Miller, 1970; Curtis et al., 1975; Brock and Isaac 1974; Cook 1976
Hans Reck	Olduvai, Kenya	Skeleton	1.15 mya	From the upper section of Bed II at Olduvai, a volcanic tuff of buff color with a reddish hue at the higher levels, with no evidence of being a refilled deposit from a later bed, the context was associated with the fossilized remains of *Elephas antiquus recki* (Hopwood 1932, pp. 192–193); the remains were adhered to matrix along with faunal remains that had to be retrieved using picks, chisels, and hammers, 3–4 meters lower than the plain and rim of the Gorge (MacCurdy 1924, p. 423); the compressed and distorted skeleton indicated that much sediment had surmounted the skeleton after deposition (Dietrich 1933, pp. 299–303); Bed II comprises radiometric dates which range from 1.15 to 1.70 mya (Oakley et al., 1977, pp. 166–169). Since Reck's skeleton was found in upper Bed II contexts, an earlier date is more likely.	Australopithecines, Neanderthal, *H. erectus*, and *Homo sapiens sapiens*—the cranium resembles a modern human having a vertical forehead with no browridge, rounded occipital, high domed cranium, chin, gracile structure, flaring parietals, and no midfacial prognathism (MacCurdy 1924, p. 423; Goodman 1983, p. 107).	Reck, 1914, 1926, 1933; Hopwood, 1932; MacCurdy, 1924; Dietrich, 1933; Oakley et al., 1977; Goodman, 1983.
Lenore Selenka	Trinil, Java	3rd molar	1–1.9 mya	Geologists divided over dates, from recent to Pliocene; associated with butchered animal bones, charcoal, and hearths (Bowden 1977, pp. 134–135).	Anatomically modern humans, *H. erectus* (MacCurdy 1924, p. 316).	Keith, 1911; MacCurdy, 1924; Bowden, 1977.

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Table II (continued)

Excavator	Locale	Skeletal Part	Date Range	Dating Methods	Comparison Material	Studies
Zuckerman & McHenry	Kromdraai, South Africa	Ulna & Humerus [Kromdraai TM 1517]	1–1.8 mya	Radiometric dates between 1–1.8 mya (Tobias, 1978, p. 67; Groves, 1989, p. 198).	Anthropoid apes, *Homo sapiens sapiens*, robust australopithecines (Broom, 1950, p. 57; Zuckerman, 1954, pp. 310–311; McHenry, 1972, p. 95).	Broom, 1951; Zuckerman, 1954; McHenry, 1972; Tobias, 1978; Groves, 1989).
John Harris	Kooba Fora	Proximal and distal femur [ER 1481]	2–2.9 mya	Associated with extinct elephant bone fragments, and parts of tibia and fibula from same individual, in deposits below KBS Tuff (R. Leakey, 1973a, 1973b).	Modern humans, australopithecines, *H. erectus* (R. Leakey 1973b, p. 821–828; Wood 1976, p. 502).	R. Leakey 1973a, 1973b; Wood 1976; Tardieu 1981.
John Harris	Kooba Fora	Femur [ER 1472]	2–2.9 mya	In contexts below KBS Tuff, associated in mineralized contexts similar to other fossils in context (R. Leakey, 1973a, 1973b).	Modern humans, australopithecines, *H. erectus* (R. Leakey 1973b, pp. 821–828; Wood 1976, p. 502).	R. Leakey 1973a, 1973b; Wood 1976; Tardieu 1981.
Michael Day	Kooba Fora	Clavicle [OH 48]	1.76 mya	Day, 1965, p. 178; Lubenow 2004, p. 340; Klein 1999, p. 120.	Day, 1965, p. 178; Lubenow, 2004, p. 340; Klein, 1999, p. 120.	Day, 1965.
Craig Feibel	Kooba Fora	Cranium & Dentition [KNM ER 1590]	1.85 mya	Feibel et al., 1989, p. 613; Lubenow 2004. p. 340.	Feibel et al., 1989:613; Lubenow 2004, p. 340.	Feibel et al., 1989, p. 613.
Meave Leakey	Kanapoi, Kenya	Distal Humerus [KNM KP 271]	3–3.5 mya	M. Leakey et al., 1995; M. Leakey et al, 1998; Lubenow 2004, p. 340.	M. Leakey et al., 1995; M. Leakey et al., 1998; Lubenow 2004, p. 340.	M. Leakey et al., 1995; M. Leakey et al., 1998.

other methods (e.g., Oakley et al. 1977, pp. 166–169).

Brigitte Senut, from the Muséum National d'Histoire Naturelle in Paris, completed several comparative studies of the specimen, with other humeri from apes, modern humans, and Plio-Pleistocene hominids. Chavaillon et al. (1977, p. 962) suggested Gombore IB 7594 is similar to humeri from anatomically modern humans by stating that "in the lateral view, the bone very much resembles *Homo sapiens sapiens*." Senut (1981b, p. 91) also concluded that "Gombore IB 7594, which was primitively attributed to the genus *Homo* … cannot be differentiated from a typical modern human."

In 1936, G. W. Barlow and Robert Broom retrieved a distal femur [Sterkfontein TM 1513] from Sterkfontein limestone quarry in South Africa. The artifact is dated between 2 and 2.3 mya, as it was retrieved from sedimentary rock deposits with radiometric dates between 2.2 and 3.0 mya and associated with australopithecine remains (e.g., Groves 1989, p. 198; Broom 1951, p. 44).

The specimen was studied by various researchers (e.g., Broom 1951; Zuckerman 1954; McHenry 1972; Tardieu 1981). Several investigators commented on the specimen's similarity to modern humans. Zukerman (1954, p. 310) stated that it "shows a resemblance to the femur of *Homo* which is so close as to amount to practical identity," and Tardieu (1981, p. 77) said the femur was "characteristic of modern man."

In 1932, Louis Leakey and Donald MacInnes retrieved five human skulls, a femur, and a lithic assemblage with stone axes at Kanjera, on the south shore of Lake Victoria in Kenya. The skeletal assemblage was dated between 400 and 700 kya based on its associated fauna, which is similar to Bed IV at Olduvai Gorge; a lithic assemblage comprising Chellean tools similar to Bed IV at Olduvai; and flourine, nitrogen, and uranium content tests (H. B. S. Cooke 1963; Leakey 1960; Oakley, 1974, 1975).

That same year, Juma Gitau, an excavator working for Louis Leakey, retrieved a mandible in Kanam, Kenya (near Kanjera). The Kanam mandible is dated between 1.7 and 2 mya based on its association with Mastodon and *Deinotherium* faunal remains, in that it was encased in the same block of travertine and exhibited similar states of preservation as the aforementioned Lower Pleistocene fauna; its association with rudimentary pebble tools; and flourine, nitrogen, and uranium content tests (Oakley et al., 1977; Leakey, 1960; Oakley, 1974, 1975).

Louis Leakey and the Royal Anthropological Institute evaluated the specimens from Kanam and Kanjera. Both the chair of the Institute, Arthur Woodward, and Leakey claimed the specimens were similar to those of anatomically modern humans. Regarding the Kanjera skulls and femur, Leakey (1960, p. 203) stated that "the front part of the skull is preserved, in a damaged condition, in two of the specimens, and from this we can see that there was no trace of a bony brow-ridge above the eyes. Instead we find a very small and simple form much as in a child, but certainly of the *Homo sapiens* type." Woodward et al. (1933, p. 477) noted that the Kanjera skulls have "no characteristics inconsistent with the reference to the type *Homo sapiens*." Regarding the Kanam mandible, Woodward et al. (1933, p. 478) stated that "with the possible exceptions of the thickness of the symphysis, the conformation of the anterior internal surface, and what seems to be a large pulp-cavity of the first right molar tooth, the Committee is not able to point to any detail of the specimen that is incompatible with its inclusion in the type of the *Homo sapiens*." Broom (1951, p. 13) concluded, "I am quite satisfied that Leakey found these remains where he says he found them, and that they prove modern man is far older that a few English scientists had thought—perhaps even as old as the Lowest Pleistocene."

In 1973, a paleontologist from the National Museum of Kenya, John Harris, retrieved a proximal and distal end of a femur [ER 1481] along with associated fragments of a tibia and fibula. Near this site, Harris retrieved another distal femur fragment [ER 1472]. Both specimens were found near the eastern shore of Lake Turkana, in Koobi Fora, in contexts below the KBS Tuff and possessed characteristics that were similar to those of anatomically modern humans. Leakey (1973b, pp. 828, 821) acknowledged that "it is quite clear, however, that these femurs are unlike those of *Australopithicus*, and astonishingly similar to those of modern man," and that they are "almost indistinguishable from those of *Homo sapiens*." Leakey (1973a, p. 450) also observed:

> "When the femur is compared with a restricted sample of modern African bones, there are marked similarities in those morphological features that are widely considered characteristic of modern *H. sapiens*. The fragments of tibia and fibula also resemble *H. sapiens*."

In 1974, B. A. Wood described a unique ankle bone or talus retrieved in Koobi Fora, in a deposit between the KBS Tuff and Koobi Fora Tuff, which enabled the specimen to be dated between 1.5 and 1.9 mya. After a comprehensive analysis, Wood (1974, p. 135) remarked on the similarity of the KNM-ER 813 to tali of anatomically modern humans: "In all the variates, the fossil aligned with the modern human tali." He also observed that "[KNM-ER 813 is] not significantly different from the tali of modern bushmen" (Wood, 1976, p. 501).

In 1913, Hans Reck led a team from the University of Berlin searching for human remains at Olduvai Gorge in German East Africa, which is now Tanzania. Surveying the north slope of the gorge, the team found a human skeleton encased in rock, which they excavated using small hammers and picks. Having divided Olduvai Gorge into five beds, the skeleton in question originated from Bed II dated at around 1.15 mya. However, the skeleton was unique and comprised traits that resembled modern humans, including a vertical forehead with no browridge, rounded occipital, high domed cranium, chin, gracile structure, flaring parietals, and no midfacial prognathism (Reck, 1914, 1926, 1933; MacCurdy, 1924; Goodman, 1983). "Judging from the photograph of the skeleton still in situ, the man of Oldoway gorge did not belong to the Neandertal, but rather to the Aurignacian [Cro-Magnon, *Homo sapiens sapiens*] type" (MacCurdy 1924, p. 423). Related to this Goodman (1983, p. 107) declared, "almost beyond question that the skeleton of a human being found by Professor Reck in 1913 is the oldest authentic skeleton of *Homo sapiens*."

From 1907 to 1908, Professor Lenore Selenka from the University of Munich, conducted a multidisciplinary excavation in Java to verify Dubois's previous claims about Java man. Her team was divided on the age of the excavated remains, the original Java fossil assemblage by Dubois. In addition, a third molar was found that was very similar to modern human and associated with butchered animal bones, hearths, and charcoal. The tooth was problematic.

> "The Selenka expedition of 1907–1908 … secured a tooth which is said by Walkoff to be definitely human. It is a third molar from a neighboring stream bed and from deposits older (Pliocene) than those in which *Picanthropus erectus* was found. Should this tooth prove to be human, *Pithecanthropus* could no longer be regarded as a precursor of man. Instead it would simply give us the cross section of a different limb of the primate tree whose branches now represent the various types of Hominidae (MacCurdy, 1972, p. 316)."

In 1938, Robert Broom acquired a radius and ulna [TM 1517] from Kromdraai, South Africa. Although the remains were from early contexts conventionally dated between 1 and 1.8 mya, several researches believed the remains belonged to anatomically modern humans (Broom, 1950; Zuckerman, 1954; McHenry, 1972). Zuckerman (1954, p. 310) concluded that the TM 1517 displayed "a very close resemblance to the humerus of Homo sapiens," and McHenry (1972, p. 95) suggested that the morphometric analysis of TM 1517 is "within the human range."

Finally, there exist a series of remains, which Lubenow states represent those of anatomically modern humans despite their early provenience in paleoanthropological sites (Lubenow 2004, p. 340). These include the clavicle [OH 48] from Koobi Fora (Day, 1965, p. 178; Klein, 1989, p. 120); the cranium fragments and dentition [KNM-ER 1590] from Koobi Fora (Feibel et al., 1989, p. 61); and the proximal and distal tibia fragments [KNM-KP 29285] from Kanapoi, Kenya (M. Leakey et al., 1995; M. Leakey et al., 1998).

The above summary is only a preliminary analysis. Required is a definitive morphometric and morphological analysis comparing the above remains to (1) *Pongidae* (chimps, gorillas, and orangutans), (2) robust and gracile australopithecines, (3) specimens clearly attributed to *H. habilis*, *H. erectus*, Neanderthals, and other non-modern specimens, and (4) anatomically modern humans or *Homo sapiens sapiens*. Post-cranial comparative specimens from non-modern humans should be ideally obtained from burials, where reasonable certainty could be established with regard to their association with non-modern human craniums. I have made a preliminary comparison. With regard to several specimens, such as KNM KP 271, the research looks very promising. If a comparative study indicates that a portion of the above remains resemble those of *Homo sapiens sapiens*, this will provide considerable support for the Genesis model, whose primary assertion is that our species was created first and therefore emerged before other non-modern human populations. The determination of similarities between the above specimens and *Homo sapiens sapiens* would also strengthen the correlation between non-modern humans, such as *H. erectus* and Neanderthals, and Nephilim populations.

Differences between Anatomically Modern and Non-modern Human Populations

There is a current theme among creationists who posit that there are no differences between anatomically modern humans or *Homo sapiens sapiens* and non-anatomically modern humans, which include but are not limited to several specimens attributed to *H. habilis* and *H. rudolfensis* and most bones associated with *H. ergaster*, *H. erectus*, *H. antecessor*, *H. heidelbergensis*, *H. neanderthalensis*, and *H. floresiensis* (Lubenow, 1999, 2004; Cuozzo, 1998; Mehlert, 1994; Beasley, 1992; Custance, 1975). They suggest that the range of traits of non-anatomically modern humans is within the variation of modern human morphology.

In addition, these researchers claim that alleged non-modern humans are modern human populations affected by diseases such as syphilis or rickets, the chewing of uncooked meat from childhood, or ages in excess of 200 years, as cited in Genesis (Lubenow, 2004; Cuozzo, 1998; Custance, 1975). To bolster his anthropological claims, Lubenow (2004, pp. 158, 187, 201) cites Scriptures such as "God said, Let Us make man in our image, in our likeness (Gen. 1:26), "From one man He made every nation of men, that they should inhabit the whole earth" (Acts 17:26), and "Therefore go and make disciples of all nations" (Matt. 28:19).

Lubenow (2004, pp. 158, 201) uses these verses to support "the unity, solidarity, and equality of the human family," "the absurdity of attempting to determine species distinctions in fossil humans," and the "insignificance" of the distinctions between modern and non-modern humans.

First, the theological arguments proposed by Lubenow seem incongruous with Scripture. The references in Matthew and Acts were after the Flood and refer to post-Flood human populations, direct descendants of Adam through Noah not impacted by the Nephilim. Genesis 1:26 does not contradict Genesis 6 or support Lubenow's assertion that there were no differences between Nephilim and non-Nephilim populations before the Flood. However, Genesis 6 does state that before the Flood of Noah, there were two different human populations: Nephilim and non-Nephilim. Nephilim populations were given a name that essentially meant "fallen" and were characterized by their physical power and ability, valor, reputation, and evil. Neither Lubenow, Cuozzo, nor Custance mention the Nephilim. It seems odd that the defining Biblical chapter on the differences between pre-Flood human populations is completely ignored by these researchers, who then claim Scriptural support for the alleged lack of differences between human groups during this period.

Second, it is false that the range of traits possessed by non-modern humans fall within the range of characteristics exhibited by anatomically modern humans. Clear differences are evident in the range of traits that characterize *Homo sapiens sapiens* and other human populations (Table III, Figures 1–4). The morphological traits of non-modern human populations, such as a thick cranial and post-cranial skeletons, occipital bun, supraorbital torus, receding frontal, and absence of a chin are found in Neanderthals, *H. erectus*, and other populations outside *Homo sapiens sapiens*. The differences between anatomically modern and non-modern human populations are agreed upon by most evolutionists despite their differences over the taxonomic descriptions of non-modern groups. Ian Tattersall (2003) prefers to separate *H. habilis*, *H. rudolfensis*, *H. ergaster*, *H. erectus*, *H. antecessor*, *H. heidelbergensis*, *H. neanderthalensis*, while Wolpoff prefers to unify non-modern human taxon into fewer populations or classify *H. erectus* as a race of *H. sapiens* (Wolpoff, Zhi, and Thorne, 1984, pp. 465–466; Shipman, 1993, p. 34). Although Lubenow (2004, pp. 201, 338–353) alludes to the "insignificance" of the distinctions between modern and non-modern humans, he attributes lists of individual human remains to modern humans, Neanderthal, *H. erectus*, and other groups based on their morphological differences. The morphological differences between modern and non-modern humans are well known by biological anthropologists, exhibited in Table III and correlated with Genesis model.

Third, Lubenow (2004, p. 148) states that modern Tasmanian human populations, which were hunted into extinction in the nineteenth century, reflect *H. neanderthalensis* or *H. erectus* traits: "Their eyes were deep set, overhung by Neandertal-like brow ridges." Using this platform, Lubenow intimates that Neanderthals or *H. erectus* are within the range of modern humans. This suggestion is misleading. An observation of Tasmanian skeletons exhibit at most a slight elevation of their supraorbital torus, which differs widely from the robust and pronounced torii exhibited on Neanderthal craniums. Furthermore, all other traits on Tasmanian skeletons resoundingly match those exhibited by *H. sapiens sapiens*: Vertically angled foreheads, gracile cranial and post-cranial bones, chins, mandibular fossa, flaring parietals, brain cases that are wider than their zygomatic arches, rounded occipitals, gracile jaws, and other modern human traits (see Figure 1). Lubenow (2004) takes one trait in a Tasmanian skeleton that he incorrectly states resembles a non-modern human and

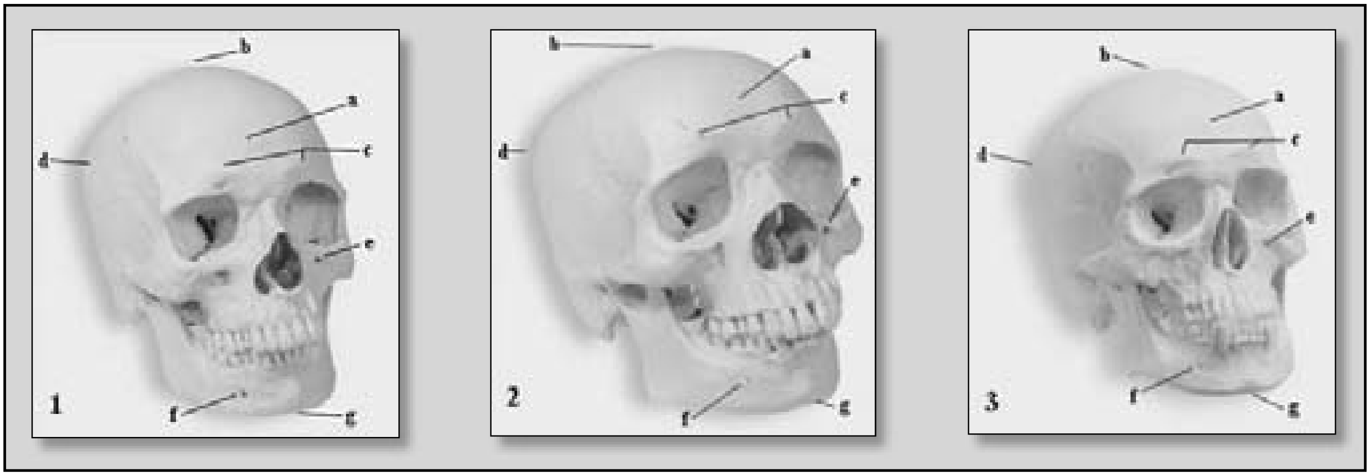

Figure 1. After the Flood only the descendants of Noah, a direct ancestor of Adam, "perfect in his generations" and not having any Nephilim ancestry, continued to exist. The Flood destroyed all Nephilim populations in their entirety throughout the world. The surviving direct descendants of Adam, through Noah, are represented by *H. sapiens sapiens* (our kind) or anatomically *modern* humans. Featured here are craniums of three major races of *H. sapiens sapiens* or modern humans: (1.1) European, (1.2) African, and (1.3) Asian, which, according to the Bible increasingly differentiated after the incident at Babel described in Genesis 11:1-9 (Also see the Tasmanian cranium in Figure 5). The photographs, from a lateral-anterior view, exhibit the characteristics of *H. sapiens sapiens*: (a) vertically angled frontal or forehead; (b) no sagittal ridge; (c) supraorbital torus that is absent or slight; (d) flaring or bulging parietal bones; (e) canine fossa beneath orbits; (f) mental foramen on each mandible; and (g) chin or mentum. For other characteristics of anatomically modern humans, please refer to Table 3.

Table III. Range of morphological traits in anatomically modern humans or *Homo sapiens sapiens* and non-modern humans comprising most skeletal assemblages attributed to *H. habilis*, *H. rudolfensis*, *H. ergaster*, *H. erectus*, *H. antecessor*, *H. heidelbergensis*, *H. neanderthalensis*, and *H. floresiensis* (expanded taxonomic definitions from Tattersall, 2003).

Biblical Differentiation	Direct Descendants of Adam (No Nephilim Ancestry)	Nephilim & Nephilim Ancestry
Linnaean Differentiation	Homo sapiens sapiens	Some specimens of *H. habilis* and *H. rudolfensis*; most specimens attributed to *H. ergaster*, *H. erectus*, *H. antecessor*, *H. heidelbergensis*, *H. neanderthalensis*, *H. floresiensis*, and potentially other populations.
Other Nomenclature	Anatomically Modern Humans	Non-modern Humans
Non-Defining Traits		
Cranial Capacity	700–2200 cc (Molnar, 1975)	600–1900 cc
Defining Characteristics: Cranium		
Frontal or Forehead	Vertical or Vertically Angled	Receding
Cranial Vault or Braincase	High, sides parallel, parietal bones bulge	Low, parietal bones angled from sagital summit of the cranium
Length of Cranium	Usually Truncated	Elongated
Median Sagittal Ridge	None to Slight	Slight to Pronounced
Supraorbital Torus or Brow-ridge	None to Slight. If slight, torus exists in two parts over each eye with a supraorbital notch dividing the individual torus and a v-shaped supraorbital trigone dividing the torus itself.	Pronounced. Usually forms continuous bar across the top of both orbits. If torus is divided over each orbit, it is robust and the supraorbital notch is absent.
Postorbital Constriction	No	Yes
Brain Case to Zygomatic Arch	Brain Case Wider	Brain Case Narrower
Parietals	Flaring or Bulging	Constricted
Occipital	Rounded	Angled with Bun or Torus Present
Nuchal area	Constricted	Extended
Cranium wall	Thin	Thick
Position of Face and Brain Case	Usually flat and angled beneath anterior part of cranium	Angled in midfacial region and is positioned forward of the anterior part of the cranium
Facial Morphology	Thin	Thick
Midfacial Prognathism	None to Slight	Pronounced
Canine fossa beneath orbits	Yes	No
Chin (Mentum)	Yes	No
Mental Foramen	Usually single foramen present	Absent or multiple small foramina present
Dentition	Gracile	Robust
Mandible (Jaw)	Gracile	Robust
Retromolar Space	Rare	Common
Ramus	Narrow	Wide

(table continues on next page)

Table III (continued)

Biblical Differentiation	Direct Descendants of Adam (No Nephilim Ancestry)	Nephilim & Nephilim Ancestry
Defining Characteristics: Post-Cranial		
Skeleton	Gracile	Robust
Femur	With pilaster, not bowed	Bowed without pilaster
Scapula Axillary Margin	Mostly unisulcate with groove on ventral surface. Sometimes bisulcate.	Unisulcate with groove on dorsal surface
Length of Distal & Proximal Phalanges on Pollex	Distal phalanx 2/3 of proximal phalanx	Both of similar length
Rounded robust apical tufts on distal phalanges	No	Yes
Angle between femoral neck and shaft	High	Low
Length of lower arm and leg compared to overall length of arm and leg	Longer	Shorter
Cortical bone of femur and tibia	Thin	Thick

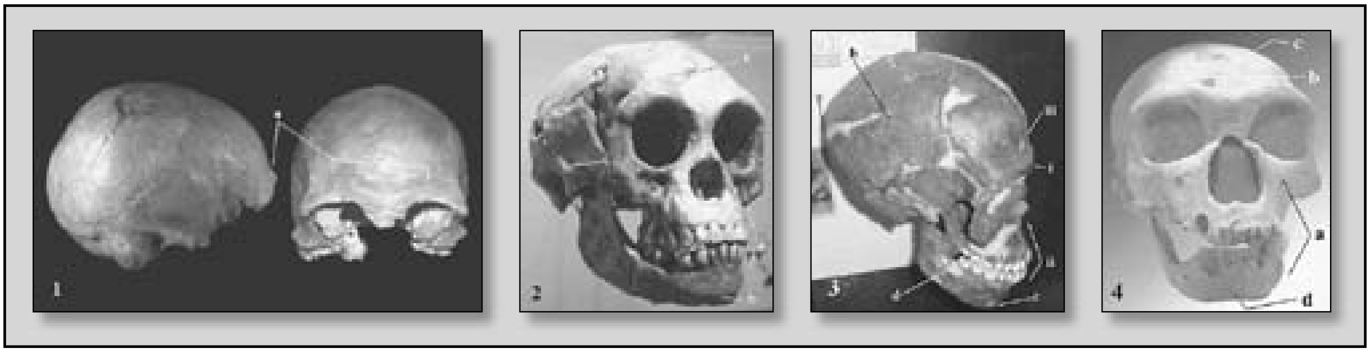

Figure 2. Just before the Flood human populations comprised direct non-Nephilim descendants of Adam, Nephilim populations, and hybrid populations with morphological features of both aforementioned groups. Some skeletal specimens suggest intermixing of traits despite the presence of a variety of identifiable human populations including *Homo sapiens* (Middle East, Africa, Europe, and Asia), *H. neanderthalensis* (mostly Europe), *H. heidelbergensis* (primarily in Africa), *H. erectus* (generally in East Asia), and *H. floresiensis* (Indonesia). Exhibited here are (2.1) *H. sapiens*, Cioclovina Calvaria, 30 kya, Cioclovina, Romania—similar to anatomically modern humans, the specimen exhibits a pronounced supraorbital torus (a) characteristic of Nephilim populations; (2.2) *H. floresiensis*, LB I, Liang Bua Cave, 18 kya, Liang Bua Cave, Flores, Indonesia—although the specimen does not have a supraorbital torus similar to modern humans, it still exhibts (a) midfacial prognathism, (b) no chin, and (c) a sharply receding forehead characteristic of Nephilim traits; (2.3) *H. sapiens*, Qafzeh 9, ca. 100 kya, Qafzeh, Israel—although most of the specimen's characteristics, such as (a) rounded occipital, (b) bulging parietals, (c) chin, and (d) no retromolar space, are similar to modern humans, its thick cranium and facial morphology, (i) supraorbital torus, (ii) midfacial prognathism, and (iii) receding frontal, suggests a derivation from Nephilim populations; (2.4) *H. neanderthalensis*, La Chapelle-aux-Saints 1, 60 kya, La Chapelle-aux-Saints, France—classic Nephilim traits include (a) midfacial prognathism; (b) pronounced supraorbital torus across the forehead; (c) sharply receding frontal, and (d) the absence of a mentum or chin. I suggest this period represents the aftermath of a third floruit of the Nephilim activity, which in some contexts has alleged dates between 130 and 95 kya. This period is described in Genesis 6:4: "and also afterward."

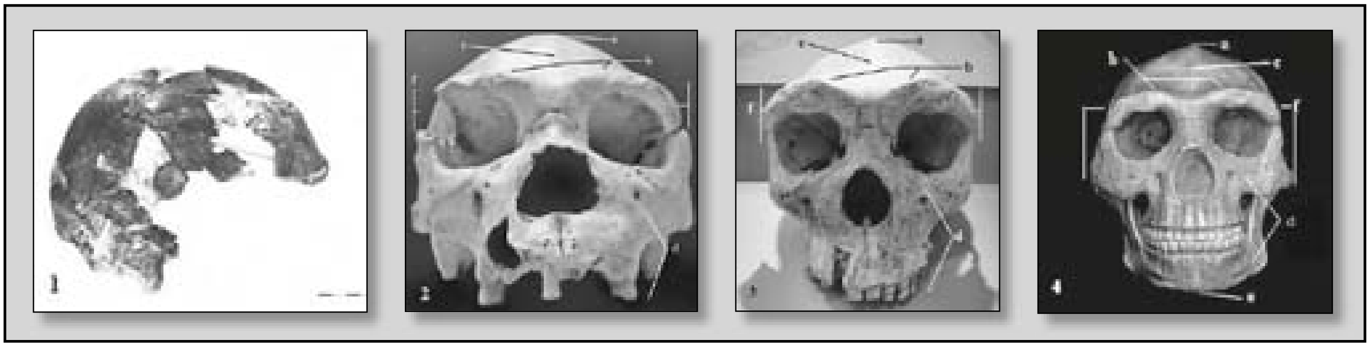

Figure 3. Midway between the advent of the Nephilim and the Flood, Nephilim and non-Nephilim populations coexisted: (3.1) *H. sapiens*, Omo I Cranium, 200 kya, Omo River, Ethiopia—this specimen is classified (even by evolutionists) as anatomically modern *H. sapiens* and resembles us in most ways except that the robust cranium and somewhat pronounced supraorbital torus suggests Nephilim ancestry; (3.2) *H. heidelbergensis*, Miguelón Skull 5, 400 kya, Atapuerca, Spain; (3.3) *H. rhodesiensis*, Lake Ndutu, 400 kya, Lake Ndutu, Tanzania; (3.4) *H. erectus*, Zhoukoudian 1, 550 kya, Zhoukoudian, China. The three non-modern specimens comprise a suite of Nephilim characteristics including (a) sagittal keel; (b) pronounced supraorbital torus extending the length of the frontal; (c) receding frontal; (d) pronounced midfacial prognathism; (e) the absence of a chin; and (f) zygomatic arches that are wider than the brain case. Features not shown include a pronounced occipital bun or torus. I suggest this period of non-modern human diversification correlates with the second emergence of Nephilim activity, beginning in contexts with alleged dates between 800 to 600 kya, in the period described in Genesis 6:4 as "and also afterward."

implies that non-modern human groups are within the morphological range of modern humans. He fails to note that the *range* of characteristics of modern humans is different from non-modern populations – and this difference clearly shows the presence of at least two groups: *Homo sapiens sapiens* or "modern" and non-modern human populations.

Fourth, Lubenow (2004, pp. 121–122; 258–269) claims that human skeletal remains from Australia exhibit *H. erectus* traits and indicate that these populations survived into the Holocene (9500 BP or after) and are therefore post-Flood. Using this assertion, he suggests these human skeletons represent modern human populations, and then argues the traits exhibited by these skeletons indicates that all non-modern humans are modern humans despite their morphological differences:

> "It is simply unthinkable that any *Homo erectus* fossils could still be around so recently. Thus, any thinking person would know that these [Australian] fossils are *Homo sapiens*, no matter what they look like (Lubenow 2004, p. 122)."

Lubenow cites individual specimens, skeletons, and the alleged dates from Kow Swamp (9.5 kya), Cohuna (9.5 kya), Coobool Creek/Crossing (9.5 kya), Lake Nitchie (7 kya), Mossgiel (6 kya), and the 6.5 kya cranium from Cossack (Thorne, 1971; Thorne and Macumber, 1972; Thorne and Wolpoff, 1981; Correspondent, 1972; Oakley et al., 1975; Macintosh et al., 1970; Macintosh, 1971; Freedman, 1985; Stringer, 1988; Habgood 1985; Delson, 1985; Laitman, 1988; Thorne and Laitman 2000; and Freedman and Lofgren, 1979a, 1979b).

Lubenow's arguments are suspect. The provenience of the Cossack remains is entirely questionable. These remains were found on the ground surface, near the base of a sand dune, on the Western coast of Australia, and most likely originated from an earlier context. Freedman and Lofgren (1979a, p. 298) state, "The direct dating of this individual is not feasible at present." Instead, they attempt to date the dunes based on the argument "that rising post Pleistocene sea levels first reached the contemporary coastline around 6,500 BP." However, the dunes could have been caused by pre-Pleistocene storms or floods or, if a creationist explanation is considered, the great Flood of Noah. Furthermore, the bones were not found in the dune but on the surface; hence, dating the remains via the dunes is difficult.

With regard to the Kow Swamp and Cohuna skeletons, these specimens were initially attributed to dates that ranged from 10,320 BP to 7,660 BP based on radiocarbon dates from charcoal and bone collected from lake and air deposited contexts as much as 2 kilometers away from the site (e.g., Thorne and Macumber, 1972, p. 317). Furthermore, the shallowness of the silt deposits allowed only one sample from the site (ANU-533) to be radiocarbon dated to 9260 +/- 270 BP. Both researchers were wary of "sampling problems arising from

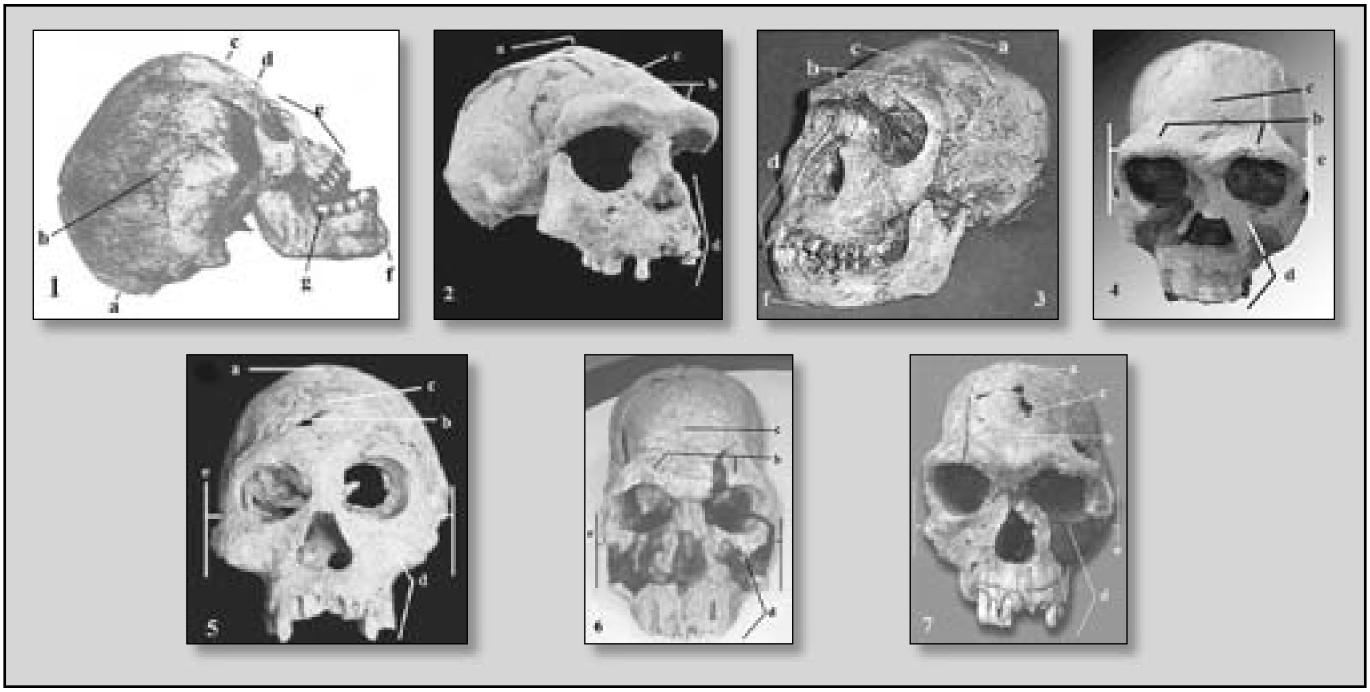

Figure 4. As Adam and his descendants "began to multiply on the face of the earth" (Gen. 6:1), Nephilim populations first emerged. This initial floruit of the Nephilim correlates with some contexts allegedly dating between 2 and 1.6 mya and features skeletons attributable to non-modern and modern humans. Specimens of note include (4.1) *H. sapiens*, from Olduvai, Bed II, Kenya, dated to 1.15 mya, Olduvai Gorge Kenya. Reck (1933, Plate 31) exhibits a *H. sapiens sapiens* skeleton he excavated in Bed II before others convinced him of the inappropriateness of his conclusions in light of the evolutionary theory. The cranium is classic *H. sapiens* with a (a) rounded occipital; (b) flaring parietals; (c) a vertical frontal; (d) no supraorbital ridge; (e) no midfacial prognathism; (f) well-defined chin; (g) no retromolar space and with a gracile cranial and facial morphology—this skeleton has no features that would suggest Nephilim derivation; (4.2) *H. erectus*, Sangiran 17, 1–1.6 mya, Sangiran, Java (Indonesia); (4.3) *Homo ergaster*, KNM-WT 15000, 1.6 mya, Nariokotome, West Turkana, Kenya; (4.4) Homo ergaster, KNM-ER 3733, 1.8 mya, Koobi Fora, Kenya; (4.5) *Homo georgicus*, D2700, 1.8 mya, Dmanisi, Georgia; (4.6) *Homo rudolfensis*, KNM ER 1470 skull, 1.9 mya, Koobi Fora, Kenya—despite that this specimen possesses a range of Nephilim traits, the vertical angle of the frontal is similar to *H. sapiens*; (4.7) *Homo habilis*, KNM ER 1813, 1.9 mya, Koobi Fora, Kenya. All Nephilim specimens (2 through 7) show traits common to many non-modern humans: (a) sagittal keel, (b) pronounced supraorbital torus; (c) receding frontal; (d) pronounced midfacial prognathism; (e) zygomatic arches that are wider that the brain case; (f) the absence of a chin; and a thick cranial and facial morphology. Specimens retrieved in these early contexts, which might be attributed to *H. sapiens*, includes Reck's discovery, osteological remains discussed at the beginning of this manuscript, and other remains, which are discussed in Lubenow (2004) and Cremo and Thompson (1998), which should be reanalyzed in light of the import of these discoveries. Furthermore, it is imperative that creationists begin osteological comparisons on all remains attributed to *H. habilis*, *H. rudolfensis*, and *H. ergaster*, as I suspect that some of these remains are from *H. sapiens sapiens*.

possible contamination by bush fires" and "rootlet contamination," which would give the remains a falsely younger date (Thorne and Macumber, 1972, p. 317). A series of more recent carbon dates indicate that the Kow Swamp skeletons date as early as 14.5 kya, the Cohuna cranium around 14.5 kya, and the Coobool Creek/Crossing specimens at 12 kya. Also, there is evidence that the Kow Swamp and Cohuna remains were reburied, which suggests an even earlier period for these skeletons (Thorne and Laitman 2000; Greenfield, 2007; Thorne and Wolpoff, 1981).

Before Lubenow (2004) published the second edition of his book, Stone and Cupper (2003) acquired optically stimulated luminescence (OSL) dates and completed a thorough paleoenvironmental analysis of the sediments around Kow Swamp. Their research indicated that these populations lived, died, and were interred between 26 and 19 kya. The shoreline silt, where Kow Swamp skeletons were retrieved, and by extension Mossgiel and Lake Nitchie contexts, are dated between 26 and 19 kya. The authors state that few "robust humans" from Kow Swamp survived and were interred in the sand lunette, which formed around 19 kya (Stone and Cupper, 2003, p. 99). In addition, there is evidence, using a large comparative sample of 588 craniums, that Australian skulls such as those found at Kow Swamp, Coobol, and Nacurrie were subjected to apparatus-derived cranial deformation, such as wrappings. These deformation processes may result in flatter frontals and occipitals, more angulated parietals, and sagittal keels when compared to skulls that were not purposefully deformed (Anton and Weinstein, 1999; Weinstein and Anton, 1997). This deformation could have continued to modern times, as several Tasmanian skulls could have been purposefully shaped causing a boxlike cranium (see Figure 5).

To support his arguments, Lubenow (2004) published only the most recent dates for the aforementioned Australian assemblage and ignored studies that confirm (1) earlier date ranges for these specimens, (2) their association with paleoanthropological contexts before the Holocene, and (3) their similarity to other non-modern human populations such as *H. erectus*.

Lubenow uses alleged and questionable exceptions to prove the rule. By employing an incorrect description of a trait on a Tasmanian cranium or publishing only the data that supports his views concerning "post-Pleistocene" *H. erectus* skeletons in Australia, he attempts to support his claims that non-modern human populations are (1) within the morphological range of modern humans or (2) are modern humans despite their morphological differences. If Lubenow's assertions are correct, surely he could find an ample number of living or recently buried individuals or populations from North America, Africa, Australia, or anywhere, to evidence that the *range* of *H. erectus* or Neanderthal traits are found in the skeletons of modern humans. Such samples have not been found; therefore, Lubenow's analysis and conclusions appear untenable.

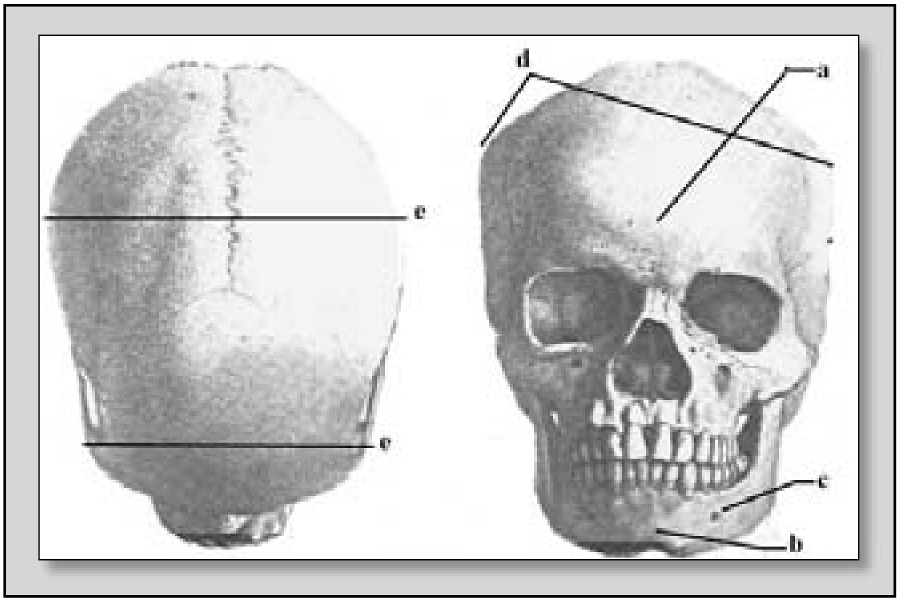

Figure 5. Tasmanian cranium, dorsal and anterior views, showing anatomically modern human features: (a) vertically angled forehead, (b) chin, (c) mental foramen, (d) flaring parietals, and (e) brain case that is wider than the zygomatic arch. Not shown is the rounded occipital and gracile mandible, both anatomically modern human traits (from Roth, 1899, p. 194).

Fifth, Lubenow (2004) attempts to support a notion that Neanderthals, *H. erectus*, and other non-modern humans are actually modern humans with bad cases of rickets, syphilis, or both.

> "There is a sizable body of scientific data that suggests one or more of the above-mentioned factors [i.e., rickets, syphilis, poor nutrition] would constitute a reasonable and nonevolutionary explanation for the Neandertal morphology (Lubenow, 2004, p. 85)."

Ivanhoe (1970), who cites Rudolf Virchow, hypothesized that several Neanderthal skeletons displayed possible osteological evidence for rickets. Wright (1971) argued that there were several features on Neanderthal skeletons suggesting congenital syphilis and noted that rickets and syphilis frequently occur together in societies with poor nutrition.

Ivanhoe argues that Neanderthal populations suffered from a lack of vitamin or hormone D caused by (1) poor sunlight in European locales from the end of the Wurm glaciation (70 kya) to the middle of the Paudorf interstadial (35 kya) and (2) a poor diet that comprised only hunted game. Major problems with Ivanhoe's hypothesis include that Neanderthals are found in contexts with alleged dates before 70 kya and up to 24 kya. Furthermore, from Gorham's Cave, Gibraltar, the quantity of fish bones suggests Neanderthals fished. Fish oil is an extremely rich source of Vitamin D. Still, Neanderthal traits at this locale are readily evident despite their presumably Vitamin D rich diet. Also, populations of *Neanderthal*, *H. erectus*, *H. heidelbergensis*, *H. ergaster*, and other non-modern human skeletons are also found in southern latitudes such as the Middle East, Indonesia, southern China, and Africa, which received much sunlight. However, traits such as supraorbital torus, midfacial prognathism, sharply receding foreheads, and no chins, which are characteristic of non-modern humans, abound in these populations. Virchow stated that he observed the bowing of tibiae in Neanderthal bones. However, there is no evidence of this (Wright, 1971). Also, bowing of the radius and femur is most likely related to significant muscularity of non-modern human populations (Klein, 1999). In addition, if rickets were present, there should be evidence for osteomalacia in female pelvii, making parturition difficult. No evidence for this pathology exists in Neanderthal skeletons (Wright, 1971).

With regard to a syphilitic causation for Neanderthal traits, there are major problems with Wright's argument. A syphilitic Olympian brow or bossing in modern humans is evidenced by an expanded vertical forehead or frontal bones hanging over deep-set eyes. These features do not emulate the prominent supraorbital torus with a receding frontal found in non-modern humans such as *H. erectus*. Also, Wright mentions the thinning of occipital and parietal bones of Neanderthal skeletons at Staroselje and Pech de l'Aze (Wright, 1971). However, having reviewed these remains, there is sparse evidence for thinning in these specimens, especially compared to cranial measurements for modern humans.

Rickets and syphilis are degenerative diseases that attrite osteological growth and eventually cripple their hosts. However, Neanderthal skeletons in the studies by Ivanhoe and Wright do not resemble crippled modern humans but powerful non-modern humans, possessing robust cranial and post-cranial skeletons. Furthermore, their skeletons are found with the remains of Pleistocene megafauna and lithic assemblages, evidencing that *H. neanderthalensis* hunted their dangerous prey with short spears and hand axes. The studies by Ivanhoe and Wright do not support Lubenow's suggestion that all populations of *H. erectus*, *H. neanderthalensis*, and other non-modern humans populations are syphilitic, ricket-laden *Homo sapiens sapiens*. Furthermore, modern humans with rickets, syphilis, or both, do not possess great strength, display robust cranial and post-cranial morphology, or exhibit the range of traits exhibited by Neanderthals or other non-modern human populations. Therefore, Lubenow's conjecture that non-modern humans are modern humans with rickets or syphilis appears unsustainable.

Sixth, Jack Cuozzo (1998) hypothesized that non-modern human populations, such as Neanderthals, are *Homo sapiens sapiens* who, according to Genesis, are more than several hundred years old and existed before and soon after the Flood. Cuozzo appears mistaken because many skeletons of non-modern humans portray a youthful injury and demise as shown by their dentition and epiphyseal ends, which are unfused or fusing. Despite their lack of maturity, these skeletons still show the range of traits exhibited by mature *H. ergaster*, *H. erectus*, *H. neanderthalensis*, and other non-modern human populations. An example of the non-modern features in skeletons that died at an early age is the remains associated with KNM-WT 15000, which has been attributed to *H. ergaster or H. erectus*. Here, an erupting second molar and unfused epiphyseal plates, such as the caput of the proximal femur, indicate a juvenile skeleton of between 10 and 12 years of age (Brown et al., 1985). Still, the morphological features are characteristic of non-modern humans: prominent supraorbital torus or browridge, no chin, receding forehead, and midfacial prognathism (see Figure 4.3 for lateral-anterior view of the cranium). Also, neonate (baby or toddler) skeletons, such as those found at Devil's Tower, Pech de l'Aze, Starosel'e, Engis, La Quina, Subalyuk, Teshik-Tash, Gorham's Cave, and Shanidar exhibit the same features, such as a robust jaw and midfacial prognathism, as their non-modern juvenile and fully adult counterparts and differ from the morphology of modern human neonates, juveniles, and adults (e.g., Stringer et al., 1990, p. 148; Ivanhoe, 1970, p. 578). To reiterate, if skeletons of young non-modern humans have the range of traits possessed by adult non-modern humans, these traits cannot be caused by great age. Therefore, Cuozzo's hypothesis that great age is a causal factor for non-modern human traits appears flawed.

Finally, Custance (1975) suggested that *H. erectus* and Neanderthal features are a result of mastication of uncooked or partially cooked foods. These mechanisms he argued would cause the development of a supraorbital torus or browridge, a receding forehead, and outward extension of the zygomatic arches (Custance, 1975; Smith, 1983). Custance stated that these changes occurred during childhood and remained permanent because of a calcium-poor diet. The aforementioned baby and toddler remains with non-modern cranial traits, such as midfacial prognathism and robust mandibles (compared to *H. sapiens* neonates), make it untenable that these features were caused by chewing uncooked meat (Stringer et al., 1990; Trinkaus, 1986). Furthermore, non-modern human populations most likely had a calcium-rich diet as evidenced by their gnawing marks on bones and longitudinal splitting of bones to access marrow, both rich sources of calcium. Since non-modern human traits appear in such young skeletons and at least some of these populations possessed a calcium rich diet, it is unfeasible that the latter populations are merely modern humans that consumed much uncooked food.

To sum, the corpus of human skeletons in the paleoanthropological contexts show clear differences between *Homo sapiens sapiens* and other non-modern human populations and that these disparities were caused by "genetic reasons" (Klein, 1999, p. 393). These differences conform to the model proposed in Genesis, which states that although non-Nephilim and Nephilim populations derived from Adam, there were differences, especially with respect to inherited ancestry, appearance, physical ability, and culture.

Comparison: Nephilim in Genesis 6 and the Skeletons, Culture, and Alleged Dates of Non-modern Humans

This Genesis model should be evaluated as to the extent non-modern human populations, their culture, and behavior, reflect the description of the Nephilim in Genesis 6. Below is a comparison of paleoanthropological data to each statement made concerning the Nephilim in Genesis 6.

"In those days, and also afterward" or *ba'yamim ha'hem vegam acharey-can* [בימים ההם וגם אחרי־כן] (Genesis 6:4)

The above statement indicates that there were at least two periods before the Flood that the Nephilim flourished. The first period (Genesis 6:1) occurred "when men began to multiply on the face of the earth"; the later period (or periods) occurred after this or "also afterward" (Genesis 6:4). That there were at least two flourishings of Nephilim culture correlates with the paleoanthropological record with regard to non-modern human skeletons. The first evidence of definitive non-modern human skeletons are attributed to *H. habilis*, *H. rudolfensis*, *H. ergaster*, or *H. erectus* and are in contexts with alleged radiometric dates around 2 to 1.8 mya. These comprise Olduvai Hominid (hereinafter OH) 24, 52, and 60; KNM-ER 1802, 2598, and 3228; Swartkrans SK-68; and KNM-WT 15001 from East and South Africa; the Modjokerto cranium from Java; and the Dragon Hill Cave mandible from Sechuan Province in China (Day, 1986, pp. 177–178; Walter et al., 1991, pp. 145–149; Feibel, Brown, and McDougall, 1989, pp. 611–612; Johanson and Taieb, 1976, p. 297; Susman, 1989, p. 451; Gingerich and Smith, 1987, pp. 203–204; Lubenow, 2004, pp. 351, 353; Klein, 1999, pp. 217–228; Ciochon et al., 1996; Anton, 1997; Rightmire, 1979; Brown et al., 1985).

Klein (1999, pp. 217–219) cites specimens KNM-ER 1501, 1502, 1813, 1805; OH 7, 13, 16, 24, 62, and Swartkrans (SWT) 53 and attributes them to *H. habilis* narrowly understood and assigns KNM-ER 1470, 1590, 3732, 1801, 1802; teeth from Shungura Members E-G, South Ethiopia; the temporal bone KNM-BC 1 from Chemeron Formation in Central Kenya; and the mandible UR 501 from Chiwondo Beds at Uraha, Malawi, to *H. rudolfensis*. However, besides KNM-ER 1470 and OH 24, which I believe derive from non-modern human or australopithecine populations, respectively, comparative analyses are needed before creationists hastily attribute the aforementioned remains to modern human populations. Here, I agree with Lubenow (2004) and Mehlert (1994) that many of these remains might derive from australopithecines, created kinds resembling apes with perhaps more bipedal capabilities. (A discussion of australopithecines is outside the scope of this manuscript.)

The second floruit is associated with the emergence of non-modern humans, with alleged date ranges from 800 to 600 kya, comprising skeletons associated with *H. antecessor* and *H. heidelbergensis*. These specimens include the *H. heidelbergensis* craniums found at Bodo, Ethiopia (600 kya) and the *H. antecessor* remains found at Gran Dolina, Atapuerca, Spain (800 kya).

The third resurgence of non-modern human skeletons, I argue, is associated with strata allegedly dating from 130 to 95 kya and comprises the spread of classic Neanderthal populations throughout Europe, *H. erectus* throughout Asia, and the emergence of *H. floresiensis* allegedly around 95 kya in Indonesia.

The paleoanthropological evidence suggests at least three temporal periods associated with the distribution of non-modern humans throughout the earth, before the Holocene period, which correlates with the description of the Nephilim in Genesis 6. Here, Genesis notes that Nephilim populations emerged initially as the descendants of Adam "began to multiply on the face of the earth" (Genesis 6:1) and "also afterward" (Genesis 6:4).

"The heroes" or *hagiborim* [הגברים] (Genesis 6:4)

As noted previously, the word "heroes" has several connotations: success in combat or hunting and extreme bravery. Hence, *giborim* implies both physical prowess and the accomplishment of acts of valor by an individual or group.

With regard to physical strength, non-modern humans were clearly stronger than modern humans, as evidenced by their thicker bones, larger muscle attachment locales on their skeleton, bowing of long bones such as the radius and femur, morphology of their hands, which suggests a powerful grasp, dorsally located sulcus on their scapula, reflecting the extraordinary power of the muscles in their upper arms, and the low angle between their femoral neck and shaft, indicating severe loading and intense physical activity (Dunsworth, 2007; Klein, 1999; Trinkaus, 1983, 1989, 1993). As more is known about Neanderthals due to their burial practices, these populations exhibit a massiveness of their trunk and limb bones indicating a "strength seldom attained by modern humans" (Trinkaus, 1978, p. 58). Geist (1981, p. 30) notes that Neanderthals were "far more powerful than modern humans" as evidenced by the wear patterns on Neanderthal tools, which cannot be duplicated and reflects "a supremely powerful musculature."

There is also evidence that non-modern humans reached maturity faster than modern humans. In an analysis of 360 incisors and canines from 119 humans spanning an alleged time period of 800 kya, Rozzi and Bermudez de Castro (2004) noted that perikymata or disturbances in the deposition of crown enamel showed wide spacing and hence, faster growth in Neanderthals, *H. heidelbergensis* and *H. antecessor* compared to modern humans. Modern humans exhibited teeth with closely spaced perikymata evidencing slower growth. Neanderthals, which exhibited the most rapid growth, formed crown enamel 15% faster than modern humans, indicating that they reached maturity while modern humans were still in their adolescence (Rozzi and Bermudez de Castro, 2004, p. 939). In addition, Neanderthals and other non-modern humans acquired their second and third molars at earlier age than modern humans (Tompkins, 1996). Tooth eruption and wear, epiphyseal fusion, and osteon ageing suggests that Neanderthals did not survive beyond their mid-forties (Trinkaus, 1986, 1995; Trinkaus and Thompson, 1987).

That non-modern human populations subjected themselves to hazardous lifestyles is evidenced by several lines of data. At Sima de los Huesos (Site SH) at Atapuerca, Spain, with an alleged date around 300 kya, an assemblage of greater than 2000 bones mostly attributed to *H. antecessor*, with a minimum number of 32 individuals, exhibited no mandibles or teeth from individuals older than 35 years of age, a juvenile with a severely fractured browridge, and a young adult with a large facial abscess (Bermudez de Castro, 1996; Bermudez de Castro and Nicolas, 1997; Perez et al., 1997). From a sample of 669 teeth from a minimum number of 165 Neanderthals, arrested enamel growth exhibited by pitting and grooving appeared on 36% of the specimens or 57% of the population (Ogilvie et al., 1989). The frequency of these hypoplastic defects is rare in modern humans in the Upper Paleolithic, indicating that non-modern humans were impacted by trauma, pathologies, or food shortages (Brennan, 1991; Neiburger et al., 1990). Neanderthals exhibit healed and mortal fractures, stab wounds, club impacts as evidenced by skeletons at La Chapelle-aux-Saints, Kebara, Tabun, Shanidar, La Ferrassie, Feldhofer, Krapina, and Sala; at a degree far greater than contemporary modern human populations (Berger and Trinkaus, 1995; Dawson and Trinkaus, 1997; Trinkaus, 1978, 1983, 1989, 1995).

In summary, non-modern human populations were much stronger, developed faster, and engaged in traumatic lifestyles compared to modern human groups. This evidence correlates with a description of the Nephilim as heroes in Genesis 6, a phrase that indicates physical prowess in the pursuit of high-risk accomplishments.

"The men of name (renown)" or *anashay ha'shem* [השם אנשי] (Genesis 6:4)

This is a phrase that is commonly and correctly translated as "the men of name," renown, or roughly "famous." The author of Genesis makes it clear that the Nephilim had tremendous reputations in the ancient world. That the Nephilim were both heroes and men of renown clearly indicates that these populations had tremendous physical prowess, which, when tested, resulted in success and the aggrandizement of their personal reputations.

If the cultural debris does not derive from early modern humans, there is evidence that *H. habilis* pursued subterranean plant remains and built structures. Bone artifacts from Swartkrans, Sterkfontein, and 26 of the 41 bone flakes from Olduvai Beds I and II, allegedly dated between 2 to 1.6 mya, exhibited polish from digging through soil (Brain and Shipman, 1993; Brain, 1985; Shipman, 1984). At site DK from Olduvai Bed I, with a proposed date around 1.75 mya, a 4- to 5-meter cluster of natural lava blocks indicate the base or at least the dimensions of a structure (Leakey, 1971).

Populations attributed to *H. erectus* formed figurines, interred their members in burials or cremated them, built structures, and traveled lengthy distances by sea. A carved human figurine, dated to 400 kya, was found near Tan-Tan, Morocco, and is associated with contemporaneous *H. erectus* fossils. The figurine was crafted and most likely painted (Svitil, 2003). Shelters mostly likely formed by *H. erectus* were excavated in Japan with alleged dates around 500 kya (Hadfield, 2000). Remains of *H. erectus* on Flores Island in Indonesia indicates their employment of seaworthy craft able to travel distances around 19 km (Klein, 1999).

Neanderthals fished, built structures and hearths, made jewelry, engraved objects, formed musical instruments, and gathered diverse foodstuffs as evidenced from the following contexts and alleged dates: Trout and pike remains dated to 75 kya at Grotte XVI in southern France (Wong, 2000); walls in Arago Cave, France, dated to 400 kya (Hayden, 1993); ivory rings, pierced animal teeth, and hearths surrounded by blocks from Arcy-sur-Cure, France, at 34 kya (Hall, 2008; Hublin et al., 1998); circular foundations of bone and stone and engravings on a elephant tibia from Bilzingsleben, Germany, at 412 kya (Gore, 1997); large limestone blocks at Pech de l'Aze Cave, France, at 45 kya (Hayden, 1993); flint facemask at La Roche-Cotard, France, at 32 kya (Palmer, 2003); bear bone flute at Divje Babe Cave I, Slovenia, at 43 kya (Wong, 1997a, 1997b); and the assemblage of pine nuts, the remains of rabbit, tortoise, dolphin, and seal, and mussels at Gorham's Cave, Gibraltar, from 125 to 28 kya (Hall, 2008).

More compelling is the wide range of lithic and bone tools that Neanderthals manufactured: Upper Paleolithic tools were found at Krapina, Croatia, in contexts around 130 kya (Simek and Smith, 1997); bone bifaces at Castel di Guido, Italy, dated to 450 kya (Mallegni and Radmilli, 1988); Chatelperronian tools at La Ferrassie rock shelter, France, at 33 kya (Niewoehner et al., 2003); Upper Paleolithic tools at Qafzeh, Israel, at 98 kya (Hayden, 1993); bone pick and awl at Regourdou Cave, France, at 70 kya (Hayden, 1993); Chatelperronian lithic assemblage at Saint-Cesaire Rock Shelter, France, at 36 kya (Klein, 1999); and bone tools and microlithic stone implements at Malagrotta, Italy, at 450 kya (Mallegni and Radmilli, 1988; Klein, 1999).

Despite that non-modern humans, such as *H. habilis*, *H. erectus*, and Neanderthals, *could* fish, gather vegetation, hunt small game, retrieve shellfish, erect structures, and manufacture bone and Upper Paleolithic, Chatelperronian, and microlithic projectile points, which permitted them to kill prey from a distance, most of their cultural assemblages exhibits a *preference* for an alternate cultural norm. Non-modern human sites are overwhelmingly associated with megafauna and associated with Early Stone Age or Middle Stone Age artifact assemblages comprising choppers, hand axes, and other bifacial tools. These were either put on short spears, hand held, or perhaps thrown and required the killing of the large animals from short distances or by hand (O'Brien, 1984). In addition, non-modern human populations mostly comprised small teams of specialized hunters (Trinkaus, 1978, 1983, 1989, 1995).

FLK Zinj in Tanzania, with an artifactual assemblage associated with *H. habilis*, comprises bones of large mammals including elephant, hippopotamus, wild boar, water buffalo, and hyenas (Bunn and Kroll, 1986). Nearly every site with the remains of non-modern humans comprises the bones of megafauna, large herbivorous and carnivorous animals. A sample of associations between non-modern humans and the remains of megafauna includes Arago Cave, France, with elephant, wild boar, and wild horse (Day, 1986 p. 49); Biache-Saint Vaast, France, with rhinoceros, wild ox, and giant deer (Gore, 1996); Karain, Turkey, with hippopotamus and cave bear (Otte et al., 1998); La Quina Rock Shelter, France, with giant bison, cave bear, and elephant (Jelinek and Debenath, 1998); Qafzeh, Israel, with rhinoceros and wild horse (Day, 1986, p. 121); Saint Brelade Cave, England, with woolly mammoth; and Torralba, Spain, with lion, elephants, and long-horned wild ox (Arsuaga, 2002). With regard to Neanderthals, Geist (1981, p. 30) states their hunts were "slanted heavily to large bodied grazers and carnivores and almost devoid of small game," which "are beyond comparison with any modern hunting culture."

To sum, non-modern humans possessed a range of food gathering and lifestyle stratagems but preferred a culture that was focused on high-risk hunting for megafauna, with short-range or direct-contact lithic projectiles. These preferences were unlike modern human cultures, which preferred gathering, sendentism, and lithic tools that were fashioned to kill from greater distances. The personal and cultural preference of non-modern humans, despite that they had the ability and knowledge of food procurement, building technologies, and lithic manufacturing strategies of modern human populations, correlates with the Biblical description of the Nephilim. Here, the latter are described as heroes and people of renown, a statement that correlates with the high risk and valorous actions of non-modern human populations as reflected by their cultural assemblages.

"Only evil all the day" or *rak rah col-ha'yom* [רק רע כל־היום] (Genesis 6:5)

The phrase suggests that all men with and without Nephilim ancestry were evil. However, that this mention of evil immediately follows the description of the Nephilim as heroes and men of name, suggests Nephilim populations were ultimately associated with evil thoughts and deeds.

Aforementioned data bears repeating: Non-modern human populations are associated with higher mortality at younger ages, before their mid-forties (Trinkaus, 1986, 1995; Trinkaus and Thompson, 1987). That this early mortality is associated with signs of trauma—healed and mortal fractures, stab wounds, and club impacts, as evidenced by skeletons at La Chapelle-aux-Saints, Kebara, Tabun, Shanidar, La Ferrassie, Feldhofer, Krapina, and Sala—at a proportion much greater than found in skeletons of contemporary modern human populations, evidences a combative and violent lifestyle that cannot solely be attributed to the dangers of the hunt (Bermudez de Castro, 1996; Bermudez de Castro and Nicolas, 1997; Perez et al., 1997; Berger and Trinkaus, 1995; Dawson and Trinkaus, 1997; Trinkaus, 1978, 1983, 1989, 1995).

While cannibalism is rare among modern humans before the Holocene, these detestable practices are regularly evidenced in non-modern human assemblages where human bones exhibit cut marks, gnawing, burning, longitudinal fragmentation, or a combination thereof. Among non-modern human populations, the evidence for the consumption of human flesh is wide ranging, both geographically and temporally. Researchers have claimed evidence for cannibalism at Neanderthal sites, in contexts allegedly dated from 28–800 kya, at Vindija Cave and Krapina in Croatia; Combe-Grenal, Abri Moula, and Hortus Cave, and Mouala-Guercy in France; Engis Caverns in Belgium; Ehringsdorf in Germany; Gran Dolina in Spain; at the *H. antecessor* assemblage at Atapuerca, Spain; at *H. heidelbergensis* sites of Klasies River Mouth in South Africa (105 kya), Bodo, Ethiopia (600 kya), and Arago, France (400–250 kya); and at Ngandong (Solo) in Java (200–50 kya), as evidenced by the removal of the bases of *H. erectus* craniums (Holden, 1999; Wolpoff, 1980; Cook, 1991; Deacon and Shuurman, 1992; Defleur et al., 1993, 1999; Carbonell et al., 1995; Le Mort, 1989; de Lumley, 1972, 1975; White, 1987; and Lubenow, 2004, pp. 338–353 [C denotes suggested evidence for cannibalism]). Conversely, evidence for cannibalism in modern humans is sparse before and after the Holocene (Arens, 1979). Only, Lubenow (2004, p. 338) notes evidence for cannibalism among modern humans at Maszycka Cave, Poland (40 kya).

The earliest art from non-modern human populations appears to be the female figurines attributed to *H. erectus*, which were found near Tan-Tan, Morocco, and Berekhat Ram, Israel, with alleged dates around 400 kya and between 300–500 kya, respectively (Figure 6; Svitil, 2003; Goren-Inbar, 1986; Goren-Inbar and Peltz, 1995). Both figurines are naked portraits of the human anatomy, with the Berekhat Ram figurine portraying the sexually distended portions of the female anatomy.

The figurines from presumably non-modern human groups should be considered with the study by Wright (1971) for syphilis in Neanderthal skeletons. Although not a cause for non-modern traits, as suggested by Lubenow (2004), the study points to possible osteological traits associated with syphilis: The pitting of occipital and parietal areas, lack of incisors and flattened taurodont molars similar to Moon's mulberry molars, and "saddle nose," or the relative depression of the bridge of the nose (Wright, 1971, p. 409). Furthermore, it is noteworthy that besides the sexually themed figurines, non-modern human art is limited to geometrical lines on bone. There are no extant figurines or imagery of animals, scenery, plants, on any art outside these naked anthropomorphic carved figures. Conversely, cave art associated with modern human remains exhibits an array of imagery including plants, animals, and handprints. In a future manuscript, the author provides data suggesting that many caves were formed before the Deluge and that the paint, with plant oils that served as durable binding agents, could have survived the destruction wrought by the Flood.

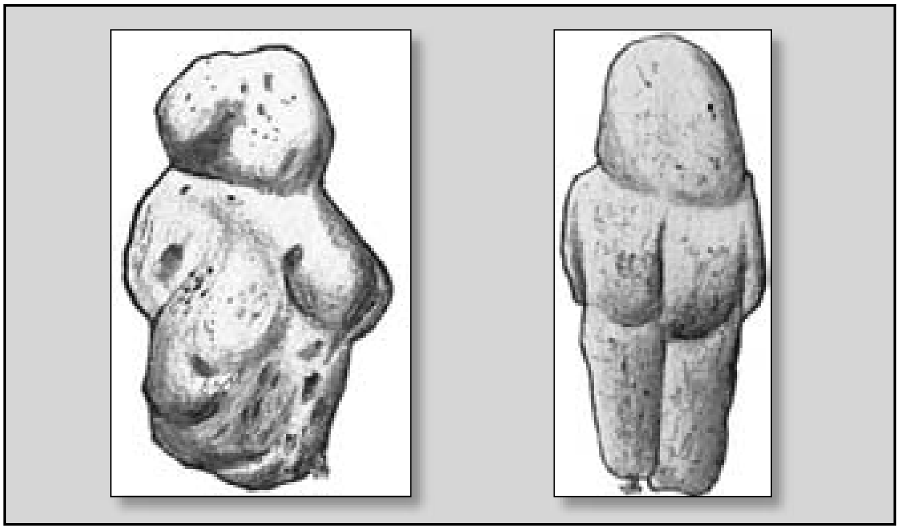

Figure 6. Earliest figurines associated with *H. erectus*: From Berekhat Ram, Israel (left) and Tan-Tan, Morocco (from Svitil, 2003; Goren-Inbar, 1986; Goren-Inbar and Peltz, 1995).

To sum, non-modern human populations are associated with skeletons and cultural assemblages that exhibit physical trauma, violence, cannibalism, an artistic fixation on sexually-themed figurines, and evidence for syphilis greater than that of modern human populations during these same periods. This association between evil acts and non-modern human skeletons and assemblages correlates with the descriptions of Nephilim and their evil thoughts and acts described in Genesis 6. Furthermore, the widespread distribution of non-modern humans before the onset of the Holocene epoch suggests the rapid spread of these populations might have been facilitated by their combativeness, violence, cannibalism, and predilection for promiscuous sexuality.

The paleoanthropological data on non-modern human populations suggests a correlation with the Nephilim of Genesis 6. The Nephilim were men or *anashim* [אנשים] (Genesis 6:4) but different from men by their physical abilities, actions, and the tremendous reputations that resulted from their acts. Hence, the clear characteristics that made the Nephilim different from men were: (1) their appearance, in that they could be differentiated from the non-Nephilim populations from Adam; (2) their physical power and ability; (3) their personas, in that they sought and accomplished actions of tremendous valor; and (4) their association with continuous evil.

Conclusions

Genesis provides the best explanatory model for paleoanthropological data with regard to the origin, variation, and continuation of human populations. That skeletal parts resembling those of modern humans have reportedly been found in the earliest paleoanthropological contexts is explained in that (1) contemporary modern human populations represent the descendents of Noah, (2) Noah was a direct patrilineal descendant of Adam, the first human God created, and (3) later Nephilim populations emerged only after the direct descendants of Adam and Eve "began to multiply on the face of the earth."

The emergence of the Nephilim after the descendants of Adam began to populate the earth accounts for the subsequent variation in the range of human morphological and cultural traits, as exemplified by most skeletons and assemblages attributed to *H. habilis*, *H. rudolfensis*, *H. ergaster*, *H. erectus*, *H. antecessor*, *H. heidelbergensis*, *H. neanderthalensis*, *H. floresiensis*, and other non-modern human populations. The latter attributions represent original Nephilim populations or hybrid groups where Nephilim populations interbred with descendants of Adam, which had, until that time, been minimally affected by Nephilim genetic ancestry.

That Noah and his family, direct descendants of Adam not influenced by Nephilim ancestry, were the only humans that survived the Flood, explains the extirpation of all non-modern human populations throughout earth and the continuation of only modern human populations or *Homo sapiens sapiens* into the present Holocene period.

Postscript

For the past four years, the laboratories of 454 Life Sciences, in Branford, Connecticut, have participated in a joint project with the Max Planck Institute for Evolutionary Anthropology, in Leipzig, Germany, to extract and sequence the full genetic code of a Neanderthal. According to George Church, professor of genetics at Harvard Medical School, the sequence could be used with stem cells to clone "*neo-Neanderthals*" with the goal of forming "*a peer group, which would mean creating several clones, if not a whole colony*" to study them and their problem solving techniques and to "*expand humanity's genetic diversity*." This view is not isolated in the evolutionary community. John Hawks, a paleoanthropologist from the University of Wisconsin states, "*In the end … we are going to have a cloned Neanderthal, I'm just sure of it*" (Zorich, 2010, pp. 38, 41). I believe this research, if successful, would be a hellish mistake. The cloning of Neanderthals, or any non-modern humans, would facilitate the emergence of extremely powerful, intelligent, and evil Nephilim populations not seen since the Noachian Deluge.

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References

Adcock, G.J., E.S. Dennis, S. Easteal, G.A. Huttley, L.S. Jermiin, W.J. Peacock, and A. Thorne. 2001. Mitochondrial DNA sequences in ancient Australians: Implications for modern human origins. *Proceedings of the National Academy of Science* 98:537–542.

Anton, S.C. 1997. Developmental age and taxonomic affinity of the Mojokerto Child, Java, Indonesia. *American Journal of Physical Anthropology* 102 (4):497–514.

Anton, S.C., and K.J. Weinstein. 1999. Artificial cranial deformation and fossil Australians revisited. *Journal of Human Evolution* 36 (2):195–209.

Arens, W. 1979. *The Man-eating Myth: Anthropology and Anthropophagy*. Oxford University Press, New York, NY.

Arsuaga, J.L. 2002. *The Neanderthal's Necklace: In Search of the First Thinkers*. Four Walls Eight Windows, New York, NY:

Beasley, G.I. 1992. A possible creationist explanation of archaic fossil human remains. *Creation Ex Nihilo Technical Journal* 6(2):138–167.

Berger, T.D., and E. Trinkaus. 1995. Patterns of trauma among the Neanderthals. *Journal of Archaeological Science* 22:841–852.

Bermudez de Castro, J.M. 1996. European Middle Pleistocene mortality patterns: The case of the Atapuerca-SH hominids. In Carbonell, E., and M. Vaquero (editors), *The Last Neandertals, the First Anatomically Modern Humans*, pp. 21–38. Fundacio Catalana per a la Recerca, Tarragona, Spain.

Bermudez de Castro, J.M., and M.E. Nicholas. 1997. Palaeodemography of the Atapuerca-SH Middle Pleistocene hominid sample. *Journal of Human Evolution* 33:333–355.

Bermudez de Castro, J.M. 2009. In http://www.congoo.com/news/2009June24/Europeans-cannibals-archaeologists (as of June 24, 2009).

Bowden, M. 1977. *Ape-Men, Fact or Fallacy?* Sovereign Publications, Bromley, UK.

Brain, C.K. 1985. Cultural and taphonomic comparisons of hominids from Swartkrans and Sterkfontein. In Delson, E. (editor), *Ancestors: The Hard Evidence*, pp. 72–75. Alan R. Liss, New York, NY.

Brain, C.K., and P. Shipman. 1993. The Swartkrans bone tools. *Transvaal Museum Monograph* 8:195–215.

Brennan, M.U. 1991. Health and disease in the Middle and Upper Paleolithic of southwestern France: A bioarcheological study. PhD. Dissertation, University Microfiche. New York University, New York, NY.

Brock, A., and G.L. Isaac. 1974. Paleomagnetic stratigraphy and chronology of hominid-bearing sediments east of Lake Rudolf, Kenya. *Nature* 247:344–348.

Broom, R. 1951. *Finding the Missing Link*. Watts, London, UK.

Broom, R., J.T. Robinson, and G.W.H. Schepers. 1950. Sterkfontein ape-man Pleisanthropus. *Transvaal Museum Memoir* 4:44.

Brothwell, D.R. 1981. *Digging Up Bones*, 3rd edition. Cornell University Press, Ithaca, NY.

Brown, F., J. Harris, R. Leakey, and A. Walker. 1985. Early *Homo erectus* skeleton from west Lake Turkana, Kenya. *Nature* 316:791.

Bunn, H.T., and E.M. Kroll. 1986. Systematic butchery by Plio/Pleistocene hominids at Olduvai Gorge, Tanzania. *Current Anthropology* 5:431–452.

Carbonell, E., J.M. Bermudez de Castro, J.L. Arsuaga, J.C. Diez, A. Rosas, G. Cuenca-Bescos, R. Sala, M. Mosquera, and X.P. Rodriguez. 1995. Lower Pleistocene Hominids and Artifacts from Atapuerca-TD6 (Spain). *Science* 269:826–830.

Chavaillon, J., N. Chavaillon, Y. Coppens, and B. Senut. 1977. Presence d'hominide dans le site oldowayen de Gombore I a Melka Kunture, Ethiopie. *Comptes Rendus de l' Academie des Sciences, Series D* 285:961–963.

Ciochon, R., V.T. Long, R. Larick, L. Gonzalez, R. Grun, J. de Vos, C. Yonge, L. Taylor, H. Yoshida, and M. Reagan. 1996. Dated co-occurence of *Homo erectus* and *Gigantopithecus* from Tham Khuyen Cave, Vietnam. *Proceedings of the National Academy of Sciences* 93:3016–3020.

Cole, S. 1975. *Leakey's Luck: The Life of Louis Leakey*. Collins Publishing, London, UK.

Cook, J. 1991. Comment on "The question of ritual cannibalism at Grotta Guattari." *Current Anthropology* 32:126–127.

Cooke, H.B.S. 1963. Pleistocene mammal faunas of Africa, with particular references to Southern Africa. In Howell, F.C., and F. Bouliere (editors), *African Ecology and Human Evolution*, pp. 78–84. Aldine, Chicago, IL.

Cooke, H.B.S. 1976. Suidae from Plio-Pleistocene strata of the Rudolf Basin. In Coppens, Y., F.C. Howell, G. Isaac, R.E. Leakey (editors), *Earliest Man and Environments in the Lake Rudolf Basin*, pp. 251–263. University of Chicago Press, Chicago, IL.

Correspondent. 1972. Late Pliestocene Man at Kow Swamp. *Nature* 238:308.

Cremo, M.A., and R.L. Thompson. 1993. *Forbidden Archaeology: The Hidden History of the Human Race*. Bhaktivedanta Book Publishing, Inc, Los Angeles, CA. (Also revised editions 1996, 1998; and condensed editions 1999, 2001, 2002, 2005).

Cuozzo, J. 1998. *Buried Alive: The Startling Truth About Neanderthal Man*. Master Books, Green Forest, AR.

Curtis, G.H., R.E. Drake, T.E. Cerling, and J. Hample. 1975. Age of KBS Tuff in Koobi Fora Formation, East Rudolf, Kenya. *Nature* 258:395–398

Custance A. 1975. *Genesis and Early Man*. The Doorway Papers, Volume II, pp. 183–184, 208–211. Zondervan, Grand Rapids, MI.

Dawson, J.E., and E. Trinkaus. 1997. Vertebral osteoarthritis of the La Chapelle-aux-Saints 1 Neanderthal. *Journal of Archaeological Science* 24:1015–1021.

Day, M.H. 1965. *Guide to Fossil Man*. World Publishing Company, Cleveland, OH.

Day, M.H. 1986. *Guide to Fossil Man*, 4th edition. University of Chicago Press, Chicago, IL.

Deacon, H.J., and R. Shuurman. 1992. The origins of modern people: the evidence from Klasies River. In Brauer, G., and F.H. Smith (editors), *Continuity or Replacement: Controversies in Homo Sapiens Evolution*, pp. 121–129. A.A. Balkema, Rotterdam, Netherlands.

Debénath, A., and A.J. Jelinek. 1998. Nouvelles fouilles à La Quina (Charente): Résultats préliminaires. *Gallia Préhistoire* 40:60–65.

Defleur, A., O. Dutour, H. Valladas, and V. Vandermeersch. 1993. Cannibals among the Neanderthals. *Nature* 362:214.

Defleur, A., T. White, P. Valensi, L. Slimak, and E. Cregut-Bonnoure. 1999. Neanderthal cannibalism at Moula-Guercy, Ardeche, France. *Science* 286:128–131.

Delson, E. (editor). 1985. *Ancestors: The Hard Evidence*. Alan R. Liss, Inc, New York, NY.

de Lumley, M.A. 1972. Les Neandertaliens de la grotte de l'Hortus (Valflaunes, Herault). In de Lumley, H. (editor), *La grotte de l'Hortus*, pp. 375–385. University de Provence, Marseilles, France.

de Lumley, M.A. 1975. Cultural evolution in France in its paleoecological setting during the Middle Pleistocene. In Butzer, K.W., and G.L. Isaac (editors), *After the Australopithecines*, pp. 745–808. Mouton, Hague, Netherlands.

Dietrich, W.O. 1933. Zur Altersfrage der Olduwaylagerstatte. *Centralblatt fur Mineralogie, Geologie und Palaontologie, Abtielung B* 5:299–303.

Dunsworth, H.M. 2007. *Human Origins 101*. Greenwood Press, Santa Barbara, CA.

Feibel, C.S., F.H. Brown, and I. McDougall. 1989. Stratigraphic context of fossil hominids from the Omo Group Deposits: Northern Turkana Basin, Kenya and Ethiopia. *American Journal of Physical Anthropology* 78:595–622.

Fitch, F.J., and J.A. Miller. 1970. Conventional potassium-argon and argon-40/argon-39 dating of volcanic rocks from East Rudolf. In Coppens, Y., F.C. Howell, G. Isaac, R.E. Leakey (editors), *Earliest Man and Environments in the Lake Rudolf Basin*, pp. 123–147. University of Chicago Press, Chicago, IL.

Freedman, L. 1985. Human skeletal remains from Mossgiel, N.S.W. *Archaeology in Oceania* 20:21–31.

Freedman, L., and M. Lofgren. 1979. Human skeletal remains from Cossack, Western Australia. *Journal of Human Evolution* 8:285.

Freedman, L., and M. Lofgren. 1979. The Cossack skull and dihybrid origin of the Australian Aborigines. *Nature* 282:299.

Geist, V. 1981. Neanderthal the hunter. *Natural History* 90(1):26–36.

Gingerich, P.D., and B.H. Smith. 1987. Early Homo from member 1, Swartkrans. *American Journal of Physical Anthropology* 72(2):203–204.

Goodman, J. 1983. *The Genesis Mystery*. Times Books, New York, NY.

Gore, R. 1996. Neandertals. *National Geographic* 189(1):19–21.

Gore, R. 1997. The first Europeans. *National Geographic* 192(1):101–111.

Goren-Inbar, N. 1986. A figurine from the Acheulian site of Berekhat Ram. *M'tekufat Ha'even* 19:71–72.

Goren-Inbar, N., and S. Peltz. 1995. Additional remarks on the Berekhat Ram figure. *Rock Art Research* 12:131–132.

Greenfield, J. 2007. *The Return of Cultural Treasures*. Cambridge University Press, Cambridge, UK.

Groves, C.P. 1989. *A Theory of Human and Primate Evolution*. Clarendon, Oxford, UK.

Habgood, P.J. 1985. The origin of the Australian Aborigines: an alternative approach and view. In Tobias, P.V. (editor), *Hominid Evolution: Past, Present, and Future*, p. 375. Alan R. Liss, Inc, New York, NY.

Hadfield, P. 2000. Gimme shelter. *New Scientist* 2228:44.

Hall, S.S. 2008. Last of the Neanderthals. *National Geographic* 214(4):34–59.

Hayden, B. 1993. The cultural capacities of Neanderthals: a review and re-evaluation. *Journal of Human Evolution* 24(2):136

Holden, C. 1999. Modern humans had Neanderthal neighbors. *Science* 286:1079.

Hopwood, A.T. 1932. The age of Oldoway man. *Man* 32:192–195.

Hublin, J., F. Spoor, M. Braun, F. Zonneveld, and S. Condemi. 1996. A late Neanderthal associated with Upper Palaeolithic artifacts. *Nature* 381:224–2226.

Ivanoe, F. 1970. Was Virchow Right about Neanderthal? *Nature* 227:578.

Johanson, D.C., and M. Taieb. 1976. Plio-Pleistocene hominid discoveries in Hadar, Ethiopia. *Nature* 260:297.

Kahn, P., and A. Gibbons. 1997. DNA from an extinct human. *Science* 277:176

Keith, A. 1911. As cited in Bowden, M. 1977. *Ape-Men, Fact or Fallacy?* Sovereign Publications, Bromley, UK.

Keith, A. 1935. Review of *The Stone Age Races of Kenya*. Nature 135:163–164

Klein, R.G. 1999. *The Human Career: Human Biological and Cultural Origins*, 2nd edition. University of Chicago Press, Chicago, IL.

Krings, M., A. Stone, R.W. Schmitz, H. Krainitzki, M. Stoneking, and S. Paabo. 1997. Neanderthal DNA sequences and the origin of modern humans. *Cell* 90:19–30.

Laitman, J. 1988. Australia. In Tattersall, I., E. Delson, and J. A. Van Couvering (editors), *Encyclopedia of Human Evolution and Prehistory*, pp. 65–67. Garland Publishing, New York, NY.

Leakey, L.S.B. 1960. *Adam's Ancestors*, 4th edition. Harper and Row, New York, NY.

Leakey, L.S.B. 1972. *By the Evidence: Memoirs, 1932–1951*. Harcourt Brace Jovanovich, New York, NY.

Leakey, M.D. 1971. *Olduvai Gorge: Excavations in Beds I and II, 1960–1963*. Cambridge University Press, Cambridge, UK.

Leakey, M.G., C.S. Feibel, I. McDougall, and A. Walker. 1995. New four-million-year-old hominid species from Kanapoi and Allia Bay, Kenya. *Nature* 376:565–571.

Leakey, M.G., C.S. Feibel, I. McDougall, and A. Walker. 1998. New specimens and confirmation of an early age for *Australopithecus anamensis*. *Nature* 393:62–66.

Leakey, R.E.F. 1969. Early *Homo sapiens* remains from the Omo River region of south-west Ethiopia. *Nature* 222:1132–1133.

Leakey, R.E.F. 1973a. Evidence for an advanced Plio-Pleistocene hominid from East Rudolf, Kenya. *Nature* 242:447–450.

Leakey, R.E.F. 1973b. Skull 1470. *National Geographic* 143:819–829.

Le Mort, F. 1989. Traces de decharnement sur les ossements neandertaliens de Combe-Grenal (Dordogne). *Bulletin de la Societe Prehistorique Francaise* 86:79–97.

Lindahl, T. 1997. Facts and artifacts of ancient DNA. *Cell* 90:1–3

Lubenow, M.L. 1992. *Bones of Contention: A Creationist Assessment of Human Fossils*. Baker Books, Grand Rapids, MI.

Lubenow, M.L. 2004. *Bones of Contention: A Creationist Assessment of Human Fossils*, 2nd edition. Baker Books, Grand Rapids, MI.

MacCurdy, G.G. 1924. *Human Origins: A Manual of Prehistory*. Vol. 3, *The Old Stone Age and the Dawn of Man and His Arts*. Appleton, New York, NY.

Macintosh, N.W.G. 1971. Analysis of an Aboriginal Skeleton and a pierced tooth necklace from Lake Nitchie, Australia. *Anthropologie* 9:49–62.

Macintosh, N.W.G., K.N. Smith, and A.B. Bailey. 1970. Lake Nitchie skeleton: Unique Aboriginal burial. *Archaeology and Physical Anthropology in Oceania* 5:85–101.

Mallegni, F., and A.M. Radmilli. 1988. Human temporal bone from the lower Paleolithic site of Castel di Guido, near Rome, Italy. *American Journal of Physical Anthropology* 76(2):177.

McDougall I., F.H. Brown, and J.G. Fleagle. 2005. Stratigraphic placement and age of modern humans from Kibish, Ethiopia. *Nature* 433:733–736.

McHenry, H.M. 1972. *Postcranial Skeleton of Early Pleistocene Hominids*. Ph.D. thesis Harvard University, Cambridge, MA.

McHenry, H.M. 1973. Early hominid humerus from East Rudolf, Kenya. *Science* 180:739–741.

McHenry, H.M., and R.S. Corruccini. 1975. Distal humerus in hominoid evolution. *Folia Primatologica* 23:227–244.

Mehlert, A.W. 1994. *Homo erectus* 'to' modern man: evolution or human variability. *Creation Ex Nihilo Technical Journal* 8(1):105–116.

Molnar, S. 1975. *Races, Types, and Ethnic Groups*. Prentice-Hall, Englewood Cliffs, NJ.

Morris, H.M. 1976. *The Genesis Record: A Scientific and Devotional Commentary* *on the Book of Beginnings*. Baker Books, Grand Rapids, MI.

Neiburger, E.J., M.D. Ogilvie, and E. Trinkaus. 1990. Enamel hypoplasias: Poor indicators of dietary stress. *American Journal of Physical Anthropology* 82:231–233.

Niewoehner, W.A., A. Bergstrom, D. Eichele, M. Zuroff, and J.T. Clark. 2003. Manual dexterity in Neanderthals. *Nature* 422:395.

Oakley, K.P. 1974. Revised dating of the Kanjera hominids. *Journal of Human Evolution* 3:257–258.

Oakley, K.P. 1975. A reconsideration of the date of the Kanam jaw. *Journal of Archaeological Science* 2:151–152.

Oakley, K.P., B.G. Campbell, and T.I. Molleson (editors). 1975. *Catalogue of Fossil Hominids Part III*. British Museum (Natural History), London, UK.

Oakley, K.P., B.G. Campbell, and T.I. Molleson (editors). 1977. *Catalogue of Fossil Hominids, Part I, Africa*, 2nd edition. British Museum (Natural History), London, UK.

O'Brien, E.M. 1984. What was the Acheulean Hand Ax? *Natural History* 7:20–23.

Ogilvie, M.D., B.K. Curran, and E. Trinkaus. 1989. Incidence and patterning of dental enamel hypoplasia among the Neanderthals. *American Journal of Physical Anthropology* 79:25–41.

Otte, M., I. Yalcinkaya, J. Kozlowski, O. Bar-Yosef, I. Lopez Bayon, and H. Taskiran. 1998. Long term technical evolution and human remains in the Anatolian Palaeolithic. *Journal of Human Evolution* 34(4):413–431.

Oxnard, C.E. 1975. *Uniqueness and Diversity in Human Evolution*. University of Chicago Press, Chicago, IL.

Palmer, D. 2003. Neanderthal art alters the face of archaeology. *New Scientist* 12:11.

Patterson, B., and W.W. Howells. 1967. Hominid humeral fragment from Early Pleistocene of northwestern Kenya. *Science* 156:64–66

Pearson, O.M., D.F. Royer, F.E. Grine, J.G. Fleagle. 2008. A description of the Omo I postcranial skeleton, including newly discovered fossils. *Journal of Human Evolution* 55(3):421–437

Perez, P.J., A Gracia, I. Martinez, and J.L. Arsuaga. 1997. Paleopathological evidence of the cranial remains from the Sima de los Huesos Middle Pleistocene site (Sierra de Atapuerca, Spain): Description and preliminary inferences. *Journal of Human Evolution* 33:409–421.

Reck, H. 1993. *Oldoway: Die Schlucht des Urmenschen*. F. A. Brockhaus, Leipzig, Germany. (See Plate 31.)

Reck, H. 1914. Zweite vorlaufige Mitteilung uber fossile Tiere- und Menschenfunde aus Oldoway in Zentral-afrika. Sitzungsbericht der Gesellschaft der naturforschender Freunde Berlins 7:305–318.

Reck, H. 1926. Prahistorische Grab und Menschenfunde und ihre Beziehungen zur Pluvialzeit in Ostafrika. *Mitteilungen der Deutschen* 34:81–86.

Reck, H. 1933. *Oldoway: Die Schlucht des Urmenschen*. F.A. Brockhaus, Leipzig, Germany. (See Plate 31.)

Rightmire, G.P. 1979. Cranial remains of Homo erectus from Beds II and IV, Olduvai Gorge, Tanzania. *American Journal of Physical Anthropology* 51:99–115.

Rightmire, G.P. 1990. *The Evolution of Homo Erectus: Comparative Anatomical Studies of an Extinct Human Species*. Cambridge University Press, Cambridge, UK.

Roth, H.L. 1899. *The Aborigines of Tasmania*, 2nd edition. F. King & Sons, Halifax, UK.

Rozzi, F.V.R., and J.M.B. de Castro. 2004. Surprisingly rapid growth in Neanderthals. *Nature* 428:936–939.

Schaeffer, F.A. 1972. *Genesis in Space and Time: The Flow of Biblical History*. Inter-Varsity Press, Downers Grove, IL.

Schaff, P. (editor). 1977. *A Select Library of the Nicene and Post-Nicene Fathers of the Christian Church*, vol. 2. Eerdmans, Grand Rapids, MI.

Senut, B. 1979. Comparaison des hominids de Gombore IB et de Kanapoi: deux pieces du genre Homo? *Bulletin et Memoires de la Societe d'Anthropologie de Paris* 6(13):111–117.

Senut, B. 1981a. Humeral outlines in some hominoid primates and in Plio-Pleistocene hominids. *American Journal of Physical Anthropology* 56 (3):275–283.

Senut, B. 1981b. Outlines of the distal humerus in hominoid primates: application to some Plio-Pleistocene hominids. In Chiarelli, A.B., and R.S. Corrucini (editors), *Primate Evolutionary Biology*, pp. 81–92. Springer Verlag, Berlin, Germany.

Shipman, P. 1984. The earliest tools: reassessing the evidence from Olduvai Gorge. *Anthroquest* 29:9–10.

Shipman, P. 1993. On the origin of races. *New Scientist* 137(1856):34–37.

Simek, J.F., and F.H. Smith. 1997. Chronological changes in stone tool assemblage from Krapina (Croatia). *Journal of Human Evolution* 32(6):561.

Smith, F.H. 1983. Behavioral interpretation of changes in cranio-facial morphology across the archaic/modern *Homo sapiens* transition. *British Archeological Reports International Series* 164. Archaeopress, Oxford, UK.

Stone, T., and M.L. Cupper. 2003. Last Glacial Maximum ages for robust humans at Kow Swamp, southern Australia. *Journal of Human Evolution* 45(2):99–111.

Stringer, C. 1988. Miscellaneous credited contributions. In Tattersall, I., E. Delson, and J. Van Couvering (editors), *Encyclopedia of Human Evolution and Prehistory*, p. 274. Garland Press, New York, NY.

Stringer, C. 2000. *Homo sapiens*. In Delson, E., I. Tattersall, J. Van Couvering, and A. Brooks (editors), *Encyclopedia of Human Evolution and Prehistory*, pp. 334–339. Garland Publishing, New York, NY.

Stringer, C.B., M.C. Dean, and R.D. Martin. 1990. A comparative study of cranial and dental development within a recent British sample and among Neanderthals. In DeRousseau, C.J. (editor), *Primate Life History and Evolution*, pp. 115–152. Wiley-Liss, New York, NY.

Susman, R.L. 1989. New hominid fossils from the Swartkrans formation

(1976–1986 Excavations): Post-Cranial Specimens. *American Journal of Physical Anthropology* 79:451:474.

Svitil, K.A. 2003. Leonardo of the Pleistocene. *Discover* 10:18.

Tardieu, C. 1981. Morpho-functional analysis of the articular surfaces of the knee-joint in primates. In Chiarelli, A.B., and R.S. Corrucini (editors), *Primary Evolutionary Biology*, pp. 68–80. Springer Verlag, Berlin, Germany.

Tattersall, I. 2003. Once we were not alone. *Scientific American Special Edition* 13(2):20–27.

Tattersall, I., E. Delson, and J. Van Couvering. 1988. *Encyclopedia of Human Evolution and Prehistory*. Garland Publishing, New York, NY.

Thorne, A.G. 1971. Mungo and Kow Swamp: morphological variation in Pleistocene Australians. *Mankind* 8(2):87.

Thorne, A.G., and J. Laitman. 2000. Australia. In Delson, E., I. Tattersall, I., J. Van Couvering, and A. Brooks (editors), *Encyclopedia of Human Evolution and Prehistory*, pp. 107–112. Garland Publishing, New York, NY.

Thorne, A.G. and P.G. Macumber. 1972. Discoveries of Late Pleistocene Man at Kow Swamp, Australia. *Nature* 238:316–319.

Thorne, A.G., and P.G. Macumber. 2000. Kow Swamp. In Delson, E., I. Tattersall, J. Van Couvering, and A. Brooks (editors), *Encyclopedia of Human Evolution and Prehistory*, pp. 365–366. Garland Publishing, New York, NY.

Thorne, A.G., and M.H. Wolpoff. 1981. Regional continuity in Australasian Pleistocene hominid evolution. *American Journal of Physical Anthropology* 55 (3):337–349.

Tobias, P.V. 1962. A re-examination of the Kanam mandible. *Actes du IVe Congres Panafricain de Prehistorie et de l'Etude du Quaternaire* 40:341–360.

Tobias, P.V. 1968. Middle and early Upper Pleistocene members of the genus *Homo* in Africa. In Kurth, G. (editor), *Evolution and Hominisation*, 2nd edition, pp. 176–194. Gustave Fischer, Stuttgart, Germany.

Tobias, P.V. 1978. The South African australopithecines in time and hominid phylogeny, with special reference to dating and affinities of the Taung skull. In Jolly, C.J. (editor), *Early Hominids to Africa*, pp. 44–84. Duckworth, London, UK.

Tompkins, R.L. 1996. Relative dental development of Upper Pleistocene hominids compared to human population variation. *American Journal of Physical Anthropology* 99:103–118.

Trinkaus, E. 1978. Hard times among the Neanderthals. *Natural History* 87(10):58.

Trinkaus, E. 1983. Neandertal postcrania and the adaptive shift to modern humans. *British Archaeological Reports International Series* 164:165–200.

Trinkaus, E. 1986. The Neanderthals and modern human origins. *Annual Review of Anthropology* 15:193–218.

Trinkaus, E. 1989. Neandertal upper limb morphology and manipulation. In Giacobini, G. (editor), *Hominidae: Proceedings of the Second International Congress of Human Paleontology*, pp. 331–337. Jaca Book, Milan, Italy.

Trinkaus, E. 1989. The Upper Pleistocene transition. In Trinkaus, E. (editor), *The Emergence of Modern Humans: Biocultural Adaptations in the Later Pleistocene*, pp. 42–66. Cambridge University Press, Cambridge, UK.

Trinkaus, E. 1993. Femoral neck-shaft angles of the Qafzeh-Skhul early modern humans, and activity levels among immature Near Eastern Middle Paleolithic hominids. *Journal of Human Evolution* 25:393–416.

Trinkaus, E. 1995. Neanderthal mortality patterns. *Journal of Archaeological Science* 22:121–142.

Trinkaus, E., and D.D. Thompson. 1987. Femoral diaphyseal histomorphometric age determinations for the Shanidar 3, 4, 5, and 6 Neandertals and Neandertal longevity. *American Journal of Physical Anthropology* 72:123–129.

Voisin, J. 2008. The Omo I hominin clavicle: Archaic or modern? *Journal of Human Evolution* 55 (3):438–443.

Walter, R.C., P.C. Manega, R.L. Hay, R.E. Drake, and G.H. Curtis. 1991. Laser Fusion of ^{40}Ar/^{39}Ar dating of Bed I, Olduvai Gorge, Tanzania. *Nature* 354:154–149.

Ward, R., and C. Stringer. 1997. A molecular handle on the Neanderthals. *Nature* 388:225–226.

Weinstein, K.J., and S.C. Anton. 1997. Artificial deformation, frontal recession, and sagittal vault contours in early Australians. *American Journal of Physical Anthropology Supplement* 24:237.

White, T.D. 1985. *Acheulian Man in Ethiopia's Middle Awash Valley: The Implications of Cut Marks on the Bodo Cranium*. Nederlands Museum voor Anthropologie en Praehistorie, Amsterdan, Netherlands.

White, T.D. 1987. Cannibals at Klasies? *Sagittarius* 2(1):6–9.

Wong, K. 1997a. Neanderthal Notes. *Scientific American* 277(3):28–30.

Wong, K. 1997b. Early Music. *Scientific American* 277(3):206.

Wong, K. 2000. Paleolithic Pit Stop. *Scientific American* 283(6):18–20.

Wolpoff, M.H. 1980. *Paleoanthropology*. Alfred A. Knopf, New York, NY.

Wolpoff, M.H., W.H. Zhi, and A.G. Thorne. 1984. Modern Homo sapiens origins: a general theory of hominid evolution involving the fossil evidence from east Asia. In Smith, F.H., and F. Spencer (editors), *The Origins of Modern Humans*, pp 465–466. Alan Books, New York, NY.

Wood, B.A. 1974. Evidence on the locomotor pattern of Homo from early Pleistocene of Kenya. *Nature* 251:135–136.

Wood, B.A. 1976. Remains attributable to Homo in the East Rudolf succession. In Coppens, Y., F.C. Howell, G.I. Isaacs, R.E. Leakey (editors), *Earliest Man and Environments in the Lake Rudolf Basin*, pp. 490–506. University of Chicago Press, Chicago, IL.

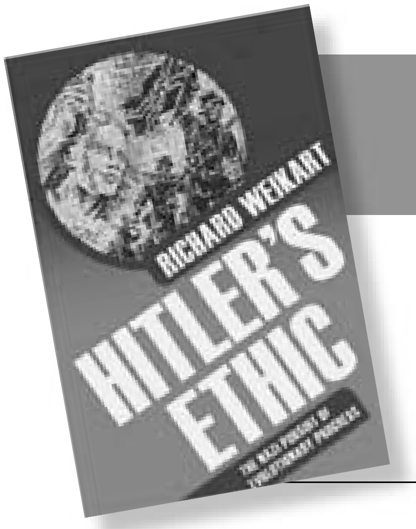
Woodward, A.S., L.S.B. Leakey, and P.G.H. Boswell. 1933. Early man in East Africa.

Nature 131:477–478.

Wright, D.J.M. 1971. Syphilis and Neanderthal Man. *Nature* 229:409.

Zorich, Z. 2010. Should We Clone Neanderthals? *Archaeology* 63(2):34–41.

Zuckerman, S. 1954. Correlation of change in the evolution of higher primates. In Huxley, J., A.C. Hardy, and E.B. Ford (editors), *Evolution as a Process*, pp. 300–352. Allen and Unwin, London, UK.



Book Review

Hitler's Ethic: The Nazi Pursuit of Evolutionary Progress

by Richard Weikart

Palgrave Macmillan, New York, NY, 2009, 254 pages, $80.00.

One of the most criticized parts of the movie *Expelled* is the implication that Darwinism and the Holocaust were strongly causally related. Although this connection is well documented in the scholarly literature, most of the documentation is in the German language or in detailed, ponderous, barely readable, scholarly tomes published by academic presses. *Hitler's Ethic* by Richard Weikart, professor of modern European history at California State University, is a carefully and well-referenced, readable book using a large number of primary sources, many in German, which elegantly document the film's claims.

An important contribution of this book is the vast quantity of Hitler quotes that Weikart located from reading the enormous number of extant Nazi documents in German archives, many of which have not been translated into English before Weikart. The documents used include Hitler's speeches and those of his close disciples, both public and private. For example, Weikart quotes Hitler, "I have acted, just as nature does, not brutally, but rather according to reason, in order to preserve the better ones [that is, Aryans], and I have thereby freed up hundreds of thousands of positions" (p. 194).

Hitler promised that these positions were now available for good German children. Eliminating "the 'inferior' Jews to make room for the 'superior' Germans was—in Hitler's view—part of the natural evolutionary process. Hitler then made clear that this principle defined his ethic, stating, 'For here also we recognize only one principle, namely the preservation of our race, preservation of our species. Everything that serves this principle is right. Everything that is detrimental to it is false.' In this speech late in the war Hitler justified killing the Jews by appealing to his evolutionary ethic" (p. 194).

This work follows Weikart's well-received previous book *From Darwin to Hitler* (Weikart, 2004) and further documents his conclusion, namely that Darwinism had a major influence on Hitler and the Nazi movement. Hitler integrated social Darwinism and anti-Semitism, insisting that the Jews are "not primarily a religion, but a race," an inferior race that has polluted the superior Aryan race (p. 75). In Hitler's words, "The racial question gives the key not only to world history, but to all human culture … for us there is no class struggle but rather a racial struggle" (p. 76).

Weikart documents that Hitler's evil can be explained only by evaluating the influence of Darwinian eugenics on German academia and politics, a conclusion that is obvious to any well-informed student of the history of the Nazi movement. Weikart uses scores of primary sources to document exactly how central not only Darwinism, but also science, was to all of the major goals of Nazism. Hitler had the backing of many of the leading scientists, many of whom Weikart names. Furthermore, "Hitler was enthralled with modern science and technology" partly because he considered it "the product of Aryan ingenuity" (p. 79). Weikart notes that many of the leading "German scientists and physicians supported and assisted Hitler in his drive to eliminate the Jews. The world famous geneticist Lenz wrote in the 1936 edition of the major text he coauthored that Jews were a harmful 'race of parasites,' and organisms 'thrive better without parasites.' … In 1943, while the Jews were being massacred, Rüdin praised Nazi policies, including