

# HOW WE BECAME HUMAN FROM THE BEGINNING: The current evidence and what may a Christian make of it?

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ISCAST\*-CASE\*\* Lecture, given at New College, The University of New South Wales, at 7.30 pm on Monday July 18, 2011

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## SUMMARY OF THE LECTURE

### Introduction

This lecture builds on, and is consistent with, the concepts and observations of Deep Time for the created world as discussed by previous ISCAST(NSW) speakers: Cohen, D. (2010)<sup>1</sup> and McFarlane, I. (2010)<sup>2</sup>. Creation descriptions in Genesis are profoundly true but use a literary form that is non-scientific and non-literal as discussed by ISCAST lecturer Dixon, J. P. (2008)<sup>3</sup>. These ISCAST lecturer presentations can be found on the ICASST website <http://www.iscast.org/presentations>. The present lecture evaluates up-to-date evidence from Archaeology, Palaeoanthropology, Geology and Neurology on how we became human and suggests when God historically revealed himself in the creative process He established, and continues to sustain.

### Evidence from the Beginning and some Christian views

Our original ancestors called Hominins<sup>4</sup> walked on two legs (bipedal) some 7 million years ago in Chad, Central Africa<sup>5,6,7,8,9,10</sup> and soon after in the East African Rift Valley system. Many cycles of climate and environmental alterations<sup>11,12,13</sup> were experienced by the Hominins including some painful outcomes with some leading to death, e.g., due to floods<sup>14,15</sup> and predator animals<sup>16,17</sup>.

Migrations within, and from, Africa occurred in waves across a savannah grassland from 1.8 million years ago by *Homo erectus* initially<sup>11</sup>. They radiated out from origin centres in Chad and East Africa<sup>11</sup>. This species of Hominin had a substantially increased brain size to about 1000 ml from about the 400 ml of its *Australopithecine* ancestors<sup>4,18,19,20,70</sup>. It was also taller, thinner in physique<sup>21</sup> (a height of 180 cm up from its prior relatives' 110-150 cm) that was better adapted to the arid conditions of the time; *Homo erectus* required 15-18% less drinking water than its predecessors<sup>22</sup>. However it needed more energy from food: 17% of resting energy was used for its larger brain function compared with 11% for the preceding small brained *Australopithecus*<sup>23</sup>.

Groundwater springs were discovered and used as water supplies which enabled *Homo erectus* to travel from Chad and East Africa northwards, westwards and eastwards through the arid areas of Africa, Arabia and Jordan/Israel especially (Knight M.J.,2011, in prep)<sup>11</sup>. *Homo sapiens* anatomically appeared in Africa (Ethiopia) by 195,000 years ago<sup>24</sup> and was the last of the Hominins to migrate within, and leave Africa between 100,000–60,000 years ago. They used dugwell, spring and surface water supplies as they travelled (Knight M.J.,

2011, in prep)<sup>11</sup>. These observations suggest that *Homo sapiens* had increased its understanding of groundwater and its value compared with previous species. Migrations were very extensive including to Australia by about 50,000 years ago<sup>4,25,26,27</sup>.

Over time, Hominin anatomy changed (e.g., brain size, cognitive function) and gave rise to creative technologies (e.g., toolmaking from 2.6 million years ago and these showed a preferred choice in rock type selected, as well as being used for defleshing animal bones for food<sup>28, 29, 30, 31</sup>).

Symbolic thinking also arose (e.g., use of earthen pigments by *Homo heidelbergensis* by about 400,000 years ago in Zambia, Africa<sup>32</sup> and later, painting and carving from 32,000 years ago by Cro-Magnon man, a type of *Homo sapiens* living in Europe<sup>4, 33, 34, 35</sup>). Symbolic thinking and its material activities may suggest that spiritual awareness was beginning.

Primitive verbal communication began at 1.9 million years ago with the expansion of the Broca's Area in the brain<sup>31, 36, 37</sup> but a fully spoken language ability, as we understand it, was not achieved until 50,000 years ago and then by *Homo sapiens* and not the Neanderthals<sup>38</sup>. Other cultural developments also occurred such as socialisation when hunter gatherers grew in number. *Homo sapiens* began to settle in groups that constructed substantial buildings, e.g, Wadi Hammeh<sup>39, 40, 71</sup>, beside the Jordan Valley and engaged in agriculture from about 10,000 years ago.

Accompanying these trends there is archaeological evidence of a growing consciousness of a spiritual dimension to life (and death) illustrated by a reverence for the afterlife (e.g., intentional burials often with grave goods): *Homo heidelbergensis* by about 600,000 years ago in Spain<sup>41, 42, 43, 44, 45</sup>; followed by the Neanderthals (*Homo neanderthalensis*), e.g., at 60,000 years ago in Amud cave, Israel<sup>21</sup> and by *Homo sapiens* including us: e.g., Australian Aboriginals at 40,000 years ago at Lake Mungo, Western NSW<sup>25, 26, 27,4</sup>, by 9,000-8,000 years ago at Jericho, Israel<sup>46,47</sup> and from 4,640 years ago in the Pyramids in Egypt<sup>48</sup>.

Sin, whilst often not measurable in material records is evidenced by interpersonal violence in skeletons of Neanderthals (45,000–50,000 years ago at Shanidar Cave in northern Iraq<sup>49, 50, 51</sup>) and *Homo sapiens* from 30,000 years ago along the Nile River in Egypt<sup>52, 53</sup> and also includes early warfare between 14,000 to 12,000 years ago in Sudan<sup>54</sup>.

Some concern and compassion for others has also been observed in the Neanderthals in Shanidar Cave northern Iraq at about 49,000 years ago<sup>55, 56, 57, 58</sup>.

Architecture that appears to have been used for worship has been found in south-east Turkey and dates from 11,000–11,500 years ago<sup>59</sup>. It is possible that priestly leadership began at this time even though major settlements and domesticated agriculture (crops and animals) were not developed till about 1000 years later<sup>35</sup>. Powerful leadership elites emerged in City States in the Bronze Age from 3300 BC.

By the Bronze Age, the data suggest that *Homo sapiens* was fully wired for spiritual belief/disbelief and was free to choose to worship various gods. The evidence for brain wiring involved in belief and disbelief processes in specific locations of the brain has been confirmed by recent neurological brain imaging research<sup>60</sup>. This extends to a recognition of Christian knowledge. The imaging signal in the Vento-Medial Prefrontal Cortex of the brain (belief zone) was stronger in Christians than non-believers when both were asked questions about God and the Virgin Birth<sup>61</sup>.

Ur, in Mesopotamia (now southern Iraq)<sup>62</sup> was a major wealthy capital city in the world in the Bronze Age with a population of over 300,000 people. It was also strongly pagan with a focus on Moon worship that involved the impressive Ziggurat of Ur. Between 2,100 BC and 2,000 BC, priests and kings of the Ur III dynasty had control of all land and resources. After 2,000 BC, the Ammorites conquered Ur and resource ownership returned to the people along with more freedom (e.g., to move along with possessions) though pagan practices such as Moon worship continued. It was in this environment that Abraham was born into a pagan family fathered by Terah; Joshua 24:2-3; Acts 7:2-4. Sometime in the Middle Bronze Age between 1,900 BC and 1600 BC, pagan Terah possibly recognized the new freedoms and decided (with God's guidance unknown to him) to take his family to Canaan, but stopped at Haran

(Genesis 11:31-32) probably due to the Moon worship still active there. God revealed Himself to Abraham in Ur (Acts 7:2-4) and later in Haran when told by God to move on to Canaan (Genesis 12:1-4); Abraham obeyed and stepped out in faith, like what occurs in Christian conversion today.

Abraham begins a new spiritual dimension of humanity. This was completed some 2,000 years ago, when God revealed Himself through Jesus Christ being born into our world fully human and fully God. Humans today can share in this new humanity by accepting Christ, as their personal savior.

Two models of an evolving creation that consist of processes established and sustained by God are proposed. These include both biological and cultural changes over time as well as God's historical revelations from the Bronze Age. Choice in Creation as a result of God's love (Psalm 136) is an important factor in both models<sup>63,64</sup>. The main differences between the models is the timing of the spiritual self-consciousness of a fallen nature by humans in prehistoric times. Some writers prefer a discreet event whereas others suggest a more continuous process<sup>65,66</sup>. A specific temporal "Fall" event may not be knowable by scientific methods. Some have tried but their estimates (ranging from 200,000 years ago<sup>67</sup>, 30,000 years ago<sup>68</sup> to about 10,000 years ago<sup>69</sup>) are really hypothetical and not empirically defensible. A gradual awareness seems more likely, based on the current the empirical evidence of a growing spiritual dimension seen in a range of Hominins. God would be involved in each strategy and both models arrive at a fallen nature awareness in the end which is empirically clear to all.

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