

Notes for Volume Three

PART III. OUR EVOLUTIONARY STORY

Motto:

1. For instance, *Encyclopaedia Britannica* says evolution is a “theory in biology postulating that the various types of plants, animals, and other living things on Earth have their origin in other preexisting types and that the distinguishable differences are due to modifications in successive generations. The theory of evolution is one of the fundamental keystones of modern biological theory.” (Evolution. 2008. *Encyclopaedia Britannica 2008 Ultimate Reference Suite*. Chicago: Encyclopædia Britannica.)
2. *What is Enlightenment?* Issue 35, January-March 2007, pp. 86–100.
3. Wilber, *Up from Eden*, pp. 9–14.
4. Wilber, *Eye to Eye*, p. 201.
5. Cremo, *Human Devolution*, blurb.
6. *Oxford English Dictionary*, CD-ROM 2nd edition, version 3.1.1.
7. Aurobindo, *Life Divine*, p. 139.
8. Aurobindo, *Life Divine*, p. 141.
9. Aurobindo, *Supramental Manifestation*, quoted in McDermott, *Essential Aurobindo*, p. 73.
10. Wilber, *Up from Eden*, p. 12.
11. Storr, *Human Aggression*, p. 9.
12. El Diwany, ‘Silent Culprit of our Decline’, http://www.islamic-finance.com/item151_f.htm, introductory article on *Problem with Interest*.
13. Osho, *Zorba the Buddha*, Chapter 1.
14. Letter in *What is Enlightenment?* Issue 31, December–February 2005/2006, p. 9.
15. Tolle, *New Earth*, p. 309.
16. Osho, *Golden Future*.
17. Osho, *Diamond Sutra*.

CHAPTER 9. ENTERING PARADISE

Motto:

1. en.wikipedia.org/wiki/Simia.
2. en.wikipedia.org/wiki/Prosimian.
3. Miller & Wood, *Anthropology*, p. 75.
4. ape. (2008). *Encyclopaedia Britannica 2008 Ultimate Reference Suite*. Chicago: Encyclopædia Britannica.
5. endangered species. (2008). *Encyclopaedia Britannica 2008 Ultimate Reference Suite*. Chicago: Encyclopædia Britannica.
6. en.wikipedia.org/wiki/Apes.
7. McKenna & Bell, *Classification of Mammals*. The opening paragraph of this book says, "Systemization provides a general framework that places all biological inquiry in context." Just so! It is the purpose of this book to show how IRL can be used as the general framework for all our inquiries, both scientific and mystical, within the context of the URT, the theory of everything.
8. Miller & Wood, *Anthropology*, pp. 167–176.
9. Dawkins, *Ancestor's Tale*, p. 105.
10. en.wikipedia.org/wiki/Species.
11. Grof, *Holotropic Mind*, p. 39.
12. Ibid.
13. Ibid., p.40.
14. ape. (2008). *Encyclopaedia Britannica 2008 Ultimate Reference Suite*. Chicago: Encyclopædia Britannica.
15. Blau, *Krishnamurti*, p. 158.
16. Teilhard, *Human Phenomenon*, p. 110.
17. Campbell, *Power of Myth*, 'The Journey Inward', pp. 37–67.
18. Long, *Origins*, pp. 22–27.
19. Ibid., p. 26.
20. Socrates. (2008). *Encyclopaedia Britannica 2008 Ultimate Reference Suite*. Chicago: Encyclopædia Britannica.
21. Anonymous, *Oxford Dictionary of Quotations*, p. 9.
22. Roel Oostra, dir., 2003, *Myths of Mankind*, 'The Osiris Myth', Cresset Communications.
23. Campbell, *Masks of God*, in four volumes.
24. Koestler, *Ghost in the Machine*, p. 267.
25. Ibid., p. 277.
26. Fromm, *Man for Himself*. p. 48.
27. Wilber, *Theory of Everything*, p. xii.

28. Campbell, *Hero with a Thousand Faces*, pp. 37–38.
29. Ibid., p. 30.
30. LePage, *Shambhala*, p. 42.
31. Ibid., p. 41.
32. I visited the Altai Mountains in southern Russia in June/July 2008 for a retreat, which felt like Paradise, inspiring me to write Part III of this book. This photograph is from our visit. To reach this valley, we first took a 4-hour, 78-km boat trip along Lake Teletskoye, then a boat trip across the mouth of the fast-flowing river, which would become the River Ob, then an hour's minibus ride along very rough roads.
33. Kharitidi, *Entering the Circle*, p. 83.
34. For myself, I've not infrequently felt such a womblike embrace when in the mountains. Two occasions stand out. The first was in the Norwegian mountains east of Bergen. When on retreat in 2001, I took a long walk up to source of the river rushing through our retreat centre and there found a horseshoe range of mountains in the sunshine. Nature was not only mirroring how I felt at that moment, but also the feeling of Paradise I felt in my mother's womb for the first seven weeks of my existence. The second was my visit to the Altai Mountains, mentioned above.
35. Trungpa, *Shambhala*, p. 4.
36. Ibid., pp. 7–8.
37. Ibid., pp. 9–10.
38. Clare Cooper Marcus, 'The Garden as Metaphor', in Francis & Hester, *Meaning of Gardens*, p. 27.
39. Genesis 2:25.
40. Psalms 90:10.
41. Miller & Wood, *Anthropology*, pp. 208 and 102.
42. Long, *Origins*, p. 45.
43. Long, *Origins*, 1st ed, p. 27.
44. Long, *Origins*, 2nd ed, p. 34.
45. Long, *Origins*, 1st ed, p. 27.
46. Ibid., p. 29.
47. Wilber, *Up from Eden*, p. 13.
48. Baring & Cashford, *Myth of the Goddess*, p. 3. This book (pp. 4–5) includes a map of Eurasia showing the distribution of Goddess figurines in the Palaeolithic era. There is a similar map of the distribution of Venus figurines in Campbell, *Atlas of World Mythology*, Vol I, Part I, p. 71.
49. Ibid., p. 10.
50. Campbell, *Atlas of World Mythology*, Vol I, Part I, pp. 22–23.

51. Ibid., p. 23.

52. Summary of marine oxygen isotope records, *Encyclopaedia Britannica 2008 Ultimate Reference Suite*, from N.J. Shackleton and N.G. Pisias (1985), D.G. Martinson et al. (1987), J. Imbrie et al. (1984), and D.F. Williams et al. (1988) in S.C. Porter, *Quaternary Research*, 32; © 1989 University of Washington.

53. Pleistocene Epoch. (2008). *Encyclopaedia Britannica 2008 Ultimate Reference Suite*. Chicago: Encyclopædia Britannica.

54. Mithen, *After the Ice*, p. 12.

55. Ibid., map on pp. 108–109.

56. Ibid., map on pp. 302–303.

57. en.wikipedia.org/wiki/Younger_Dryas.

58. en.wikipedia.org/wiki/Bølling_Oscillation.

59. Ibid.

60. Ibid.

61. en.wikipedia.org/wiki/Older_Dryas.

62. en.wikipedia.org/wiki/Anthropocene.

63. The previous article has a simulated night-time image of the world during the Anthropocene, which does not reproduce well in print.

64. Miller & Wood, *Anthropology*, p. 258, summarizing Binford, Sally R., *New Perspectives In Archaeology* (1968).

65. Ibid., pp. 256–257.

66. The terms *Palaeolithic*, *Mesolithic*, *Neolithic* were coined by John Lubbock in his work *Prehistoric Times*, published in 1865 (Wikipedia). John Lubbock, a neighbour, friend, and follower of Charles Darwin, was the inspiration for the hero of Steven Mithen's *After the Ice*, an important reference source for this chapter.

67. *Chalcolithic* derives from Greek *khalkos* ‘copper’, which derives from Latin Latin *copperum* from Latin *cyprium* ‘copper’ from Greek *Kupros* ‘Cyprus’. Hence *Cu* as the scientific symbol for the element copper.

68. Three Age system, *American Heritage Dictionary of English*.

69. Fagan, *Archaeology*, p. 809.

70. Maslow, *Motivation and Personality*, pp. 15–23.

71. Wilber, *Up from Eden*, pp. 131–140.

72. Campbell, *Primitive Mythology*, p. 67.

73. Wilber, *Brief History of Everything*, p. 48.

74. Gimbutas, *Gods and Goddesses*, p. 12.

75. Ibid., p. 16.

76. Ibid., p. 9.

CHAPTER 10. THE EVOLUTION OF THE MIND

Motto: Teilhard, *Human Phenomenon*, pp. 123–124.

1. Whitehead, *Process and Reality*, p. 39.
2. Ramana Maharshi, *Spiritual Teaching*, p. 20.
3. Ibid., pp. 20 & 58.
4. Toynbee & Myers, *Study of History*, Vol. XI: *Historical Atlas and Gazetteer*.
5. On 17th October 2008, there were 20 hits for *Homo civitas* and 116 for *Homo mundanus*.
6. Russell, *History of Western Philosophy*, p. 138.
7. Tarnas, *Passion of the Western Mind*, p.
8. In modern Norwegian and Swedish, *tun* or *tunn* means a ‘farmstead’. Sometimes while driving around Scandinavia, you see a road sign saying beware of the *tunn* as the road runs through the middle of a farmstead. The Vikings took this word to England where it is seen as the suffix for hundreds of place names (Cameron, *English Place Names*, pp. 143–148.)
9. Toynbee and Myers, *A Study of History Vol. XI: Historical Atlas and Gazetteer*, p. 90.
10. Toynbee, abridge. Somervell, *Study of History: Abridgement*, Vol. 1, p. 5.
11. Wood, *In Search of the First Civilizations*, p. 9.
12. Wood, *In Search of the First Civilizations*, p. 9.
13. Ibid., p. 10.
14. Gimbutas, *Gods and Goddesses*, p. 197.
15. Wood, op. cit. p. 16.
16. Ibid., p. 121.
17. Wood, *Story of India*, , pp. 38–42.
18. Doniger, *Rig Veda*, p. 81: Sarasvati “flows with the food of life, that you use to nourish all that one could wish for, freely giving treasure and wealth and beautiful gifts”.
19. Wikipedia, ‘India’.
20. ‘pharaoh’. *Encyclopaedia Britannica 2008 Ultimate Reference Suite*. Chicago: Encyclopædia Britannica, 2008.
21. Wood, *Story of India*, p. 29.
22. Ibid., p. 34.
23. Ibid., p. 35.
24. Ibid., p. 36.
25. Wood, *First Civilizations*, p. 54.
26. Wood, *Story of India*, DVD, Episode One, ‘Beginnings’.
27. Wood, *Story of India*, p. 29.
28. Wood, *Story of India*, DVD, Episode One, ‘Beginnings’.

29. Wood, *Story of India*, p. 29.
30. Coulmas, *Writing Systems*, p. 231.
31. Ibid., ‘Sumerian writing’, p. 481.
32. Genesis 1:8-9.
33. en.wikipedia.org/wiki/Image:Mesopotamia.PNG.
34. Etymology of *Eden* in OED, *Encyclopaedia Britannica*, and *American Heritage Dictionary of English*.
35. Wood, *First Civilizations*, p. 25.
36. “Eden, Garden of”, *Encyclopaedia Britannica 2008 Ultimate Reference Suite*.
37. www.demographia.com/db-worldua.pdf.
38. en.wikipedia.org/wiki/List_of_metropolitan_areas_by_population.
39. Davies, *History of Money*, p. 15.
40. Ibid.
41. Ibid.
42. Ibid.
43. Ibid., p. 16.
44. Ibid.
45. Ibid., p. 29.
46. Wood, *First Civilizations*, p. 29.
47. Ibid.
48. Wilber, *Up from Eden*, p. 108.
49. Wilber, *Spectrum of Consciousness*, p. 31.
50. Sheldrake, *New Science of Life*.
51. Coulmas, *Writing Systems*, ‘Old European writing’, p. 366.
52. Ibid., ‘cuneiform writing’, p. 100.
53. Ibid., ‘cuneiform writing’, p. 98.
54. <http://www.unicode.org/charts/PDF/U12000.pdf>.
55. <http://en.wikipedia.org/wiki/Sexagesimal>.
56. Boyer & Merzbach, *History of Mathematics*, p. 33.
57. Ibid., p. 183.
58. Coulmas, *Writing Systems*, ‘Semitic writing’, p. 8. The dotted lines indicate assumed connections which are not well documented.
59. <http://en.wikipedia.org/wiki/Tetragrammaton>.
60. Coulmas, *Writing Systems*, ‘Greek alphabet’, p. 179.
61. http://en.wikipedia.org/wiki/Lower_case.
62. Coulmas, *Writing Systems*, ‘Carolingian reform’, p. 68.
63. Ibid.

64. Ibid., 'diglossia', p. 128.
65. Ibid., 'spelling reform', p. 478.
66. Chadwick, *Linear B*, p. 8.
67. Ibid., pp. 8–9.
68. Ibid., p. 2.
69. Coulmas, *Writing Systems*, 'Michael Ventris', p. 542.
70. Chadwick, op. cit. pp. 36–37.
71. <http://www.unicode.org/charts/PDF/U10080.pdf>.
72. <http://www.unicode.org/charts/PDF/U10000.pdf>.
73. Coulmas, *Writing Systems*, 'Japanese writing', p. 239.
74. Chadwick, op. cit. p. 35.
75. Ibid., pp. 43–61.
76. Ibid., pp. 63–66.
77. Ibid., p. 68.
78. Ibid., p. 81.
79. Ibid., p. 3.
80. Fortson, *Indo-European Language and Culture*, p. 42.
81. Eisler, *Chalice and the Blade*, p. xv.
82. Ibid., p. xvii.
83. Ibid., p. xviii.
84. Watkins, *American Heritage Dictionary of Indo-European Roots*, p. 22.
85. Coulmas, op. cit. p. 49.
86. Fromm, *To Have or To Be?* p. 197.
87. Forston, *Indo-European Language and Culture*, p. 8.
88. Ibid.
89. Ibid., p. 10.
90. Ibid., p. 3.
91. Wood, *First Civilizations*, p. 50.
92. Fortson, *Indo-European Language and Culture*, pp. 5–6.
93. Watkins, *American Heritage Dictionary of Indo-European Roots*, p. xl.
94. Fortson, *Indo-European Language and Culture*, p. 4.
95. Ibid., p. 11.
96. Gimbutas, *Kurgan Culture*, p. 76.
97. Ibid., p. 77.
98. <http://en.wikipedia.org/wiki/Kurgan>.
99. Eisler, *Chalice and the Blade*, p. 44.
100. Gimbutas, *Kurgan Culture*, p. 200.

101. Ibid., p. 349.
102. Ibid., p. xiv, Editors' Forward (sic).
103. Eisler, *Chalice and the Blade*, p. 44.
104. Gimbutas, *Kurgan Culture*, p. 107.
105. Eisler, *Chalice and the Blade*, p. 44.
106. http://en.wikipedia.org/wiki/Afro-Asiatic_languages.
107. Toynbee and Myers, *Historical Atlas*, p. 90.
108. Ibid., pp. 88-202
109. http://en.wikipedia.org/wiki/Chinese_whispers.
110. Fischer-Schreiber, *Encyclopedia of Eastern Philosophy and Religion*, p. 392.
111. <http://en.wikipedia.org/wiki/Vedanta>.
112. Narayan, *Mahabharata*, p. vii.
113. Fischer-Schreiber, op. cit., 'Hinduism', p. 130.
114. Wood, *Story of India*, p. 45.
115. Ibid., pp. 47-53.
116. Ibid., p. 52.
117. Fischer-Schreiber, op. cit., 'Purana', p. 279.
118. <http://en.wikipedia.org/wiki/Puranas>.
119. Doninger, *Rig Veda*, p. 12.
120. As a matter of curiosity, the next term in the series 1, 4, 108 would be 27,648, if it stepped up as matching powers of the integers, and 86,400,000, if just the primes were considered. The 20th term in the integer series is 1.008E230, which once again shows how rapidly numbers can grow from the simplest of formulae, all of these finite numbers being minuscule compared with the infinite number of infinite cardinals.
121. Wood, op. cit. p. 56.
122. Easwaran, *Upanishads*, p. 75.
123. Ibid., p. 96.
124. Toynbee, *Study of History*, p. 92.
125. Ibid., p. 93.
126. Deuteronomy 14:2, *Tanakh*, p. 297.
127. Deuteronomy 14:2, Authorized Version of *The Bible*.
128. Toynbee, op. cit. p. 251.
129. Ibid., p. 374.
130. Fortson, *Indo-European Language and Culture*, p. 7.
131. Davies, *History of Money*, p. 9.
132. Fromm, *To Have or To Be?* p. 192.
133. Davies, op. cit. p. 27.

134. Ibid.
135. Ibid.
136. Ibid., p. 33.
137. Jaspers, *Origin and Goal of History*, p. 1.
138. Interview on CNN about 8th November 2008.
139. Nhat Hanh, *Old Path White Clouds*, p. 42.
140. Ibid., p. 41.
141. Ibid., pp. 50–52, 68.
142. Ibid., p. 102–104.
143. Ibid., p. 107.
144. http://www.travelpod.com/travel-photo/lraleigh/youarehere./1167549060/img_0294.jpg/tpod.html.
145. Nhat Hanh, op. cit. p. 108.
146. Watts, *Zen*, p. 67.
147. Nhat Hanh, op. cit. p. 131.
148. Blau, *Krishnamurti*, p. 85.
149. R. Wilhelm, *I Ching*, pp. xl ix–li.
150. Ibid., p. 337.
151. H. Wilhelm, ‘The Concept of Time in the *Book of Changes*’.
152. Legge, *I Ching*, Plate II, Fig. I.
153. R. Wilhelm, *I Ching*, p. 48.
154. Ibid., p. 52.
155. Ibid., p. liv.
156. Ibid., p. 311, Chapter IX, section 3 in *Ta Chuan*.
157. Ibid., p. 313.
158. http://www.organicdesign.co.nz/I_Ching/_Divination.
159. Wilhelm, op. cit. p. xxiv.
160. Jung, *Synchronicity*, p. 52.
161. Capra, *Tao of Physics*, pp. 121–123.
162. Wilhelm, op. cit. p. xxiv.
163. Ibid., p. xxv.
164. Ibid., p. liv.
165. Wood, *First Civilizations*, p. 93.
166. Solomon & Higgins, *Short History of Philosophy*, p. 91.
167. Ibid., p. 92.
168. Fischer-Schreiber, *Eastern Philosophy and Religion*, p. 191.
169. Wood, op. cit. p. 91.

170. Ibid.
171. Fischer-Schreiber, op. cit. p. 356.
172. Ibid.
173. Lao Tzu, *Tao Teh Ching*, translated by John C. H. Wu, pp. 23–24.
174. Fischer-Schreiber, op. cit. p. 104.
175. Meldman, *Mystical Sex*, pp. 100–101.
176. Kapp, *Rigmaroles & Ragamuffins*, p. 120.
177. Osho, *From Sex to Superconsciousness*.
178. Long, *Making Love: Sexual Love the Divine Way*.
179. Anand, *The Art of Sexual Ecstasy: The Path of Sacred Sexuality for Western Lovers*.
180. Deida, *Finding God through Sex: A Spiritual Guide to Ecstatic Loving and Deep Passion for Men and Women*.
181. Larsen, *Not until You Die*, pp. 135–137.
182. Russell, *Western Philosophy*, p. 44.
183. Ibid., pp. 46–47.
184. Ibid., p. 47.
185. Ibid., p. 61.
186. Russell, op. cit. p. 61.
187. http://en.wikipedia.org/wiki/Classical_elements.
188. http://en.wikipedia.org/wiki/Wu_Xing.
189. <http://en.wikipedia.org/wiki/Qi>.
190. Bergson, *Creative Evolution*.
191. OED.
192. *American Heritage Dictionary of the English Language*.
193. Plato, *Timeaus*, pp. 47–49, 54c–55c.
194. Coxeter et al, ‘Uniform Polyhedra’, *Philosophical Transactions*. 1954, vol. 246A, p. 402.
195. http://en.wikipedia.org/wiki/Classical_elements.
196. Coxeter, op. cit. p. 402.
197. Plato, op. cit. p. 48, 55c.
198. [http://en.wikipedia.org/wiki/Aether_\(classical_element\)](http://en.wikipedia.org/wiki/Aether_(classical_element)).
199. *American Heritage Dictionary of the English Language*.
200. http://en.wikipedia.org/wiki/Luminiferous_aether.
201. http://en.wikipedia.org/wiki/Michelson-Morley_experiment.
202. Hoffmann, *Einstein*, p. 69.
203. Einstein, *Relativity*, p. 52–53.
204. Hoffmann, op. cit. p. 72.

205. John 9:5.
206. <http://press.web.cern.ch/press/PressReleases/Releases2008/PR09.08E.html>.
207. <http://press.web.cern.ch/press/PressReleases/Releases2008/PR08.08E.html>.
208. http://en.wikipedia.org/wiki/Classical_elements.
209. Aristotle, *Metaphysics*, p. 147.
210. Aristotle, *Categories*. pp. 17–19.
211. Flew, *Dictionary of Philosophy*, p. 253.
212. Ibid., p. 374.
213. Blumenau, *Philosophy and Living*. p. 21.
214. It is pertinent to note that *thing* derives from Old Norse *þing* ‘public assembly, meeting, parliament, council’. Today, the Norwegian parliament is called the *Storting* ‘Grand Assembly’ and *ting* in Swedish means a session of the *tingsrätt* ‘district court’, a place of justice, from *rätt* ‘justice’, cognate with *right*.
215. <http://showcase.netins.net/web/creative/lincoln/speeches/gettysburg.htm>.
216. Fromm, *To Have or To Be?* p. 75.
217. Solomon & Higgins, *History of Philosophy*, p. 28.
218. Plato, *Republic*, Part VII ‘The Philosopher Ruler’, 475e, p. 269.
219. Ibid., 475c, p. 268.
220. Ibid., 484b, p. 276.
221. Ibid., 485e, p. 278.
222. Russell, *Western Philosophy*, p. 63.
223. Osho, *Hidden Harmony*, p. 147. The translation that Osho used in his dialogues is very similar to that of William Harris at <http://community.middlebury.edu/~harris/Philosophy/Heraclitus.html>.
224. Kahn, *Art and Thought of Heraclitus*, p. 29.
225. Ibid., p. 52.
226. William Harris, *Heraclitus: The Complete Fragments*, <http://community.middlebury.edu/~harris/Philosophy/heraclitus.pdf>.
227. Osho, op. cit. p. 106.
228. Ibid., p. 48.
229. <http://www.elea.org/Parmenides/>.
230. <http://en.wikipedia.org/wiki/Parmenides>.
231. <http://plato.stanford.edu/entries/parmenides/>.
232. <http://www.elea.org/Parmenides/>.
233. <http://plato.stanford.edu/entries/parmenides/>.
234. Ibid.
235. <http://en.wikipedia.org/wiki/Parmenides>.

236. Exodus 3:14. In the translation of the *Tanakh* made by The Jewish Publication Society, these Hebrew words are left untranslated because the meaning is uncertain. They suggest 'I Am That I Am,' 'I Am Who I Am,' and 'I Will Be What I Will Be,' etc.
237. <http://www.elea.org/Parmenides/>.
238. http://en.wikipedia.org/wiki/Jean-Baptiste_Alphonse_Karr.
239. <http://www.elea.org/Parmenides/>.
240. http://en.wikipedia.org/wiki/Nothing_comes_from_nothing.
241. Shakespeare, *Complete Works*, 'King Lear' Act I, scene i, line 89.
242. Osho, *The Tantra Vision*, Vol. 1, Chapter 3.
243. Osho, *The Hidden Harmony*, p. 48–68.
244. Russell, op. cit. p. 102.
245. Ibid., p. 103. From Plato's *Apology*.
246. Tarnas, *Western Mind*, pp. 32–33.
247. Thales of Miletus, Pittacus of Mytilene, Bias of Priene, Solon of Athens, Cleobulus of Lindus, Myson of Chenaean, and Chilon of Sparta.
248. Plato, *Protagoras*, 343b, p. 51.
249. <http://en.wikipedia.org/wiki/Lagom>.
250. Russell, op. cit. p. 109.
251. Tarnas, op. cit. p. 7.
252. Plato, *Republic*, 475e–476a, p. 269
253. Blumendau, *Philosophy and Living*, p. 33.
254. Armstrong, *Universals*, p. 1.
255. Tarnas, *Passion of the Western Mind*, p. 3.
256. Plato, *Republic*, p. 265, translator, Desmond Lee's note.
257. Ibid., 476b, p. 269.
258. Ibid., 493d, p. 288.
259. Ibid., p. 266, translator's note.
260. Ibid., 476d, p. 270.
261. Blumenau, op. cit. p. 34.
262. Plato. op. cit. 509d, p. 312.
263. Ibid., p. 306, translator's note.
264. Ibid., 508d, p. 308.
265. Ibid., p. 310, translator's note.
266. Ibid., 514a–515c, pp. 317–318.
267. http://en.wikipedia.org/wiki/Being_There.
268. Plato, op. cit. 515c–516a, p. 318.
269. Easwaran, tr. *Bhagavad Gita*, Chapter 11, pp. 150–157.

270. Plato, op. cit. 510d, p. 314.
271. Wells, *Country of the Blind*, pp. 322–347.
272. Plato, op. cit. 516a–517a, pp. 319–320.
273. Kline, *Mathematics in Western Culture*, pp. 30–31.
274. Kline, op. cit. p. 74.
275. Grimal, *Classical Mythology*, ‘Academus’, p. 1.
276. Kline, op. cit. p. 97.
277. Ibid., p. 99.
278. ‘monad’. *Encyclopaedia Britannica 2008 Ultimate Reference Suite*. Chicago: Encyclopædia Britannica, 2008.
279. Ibid.
280. [http://en.wikipedia.org/wiki/Monad_\(symbol\)](http://en.wikipedia.org/wiki/Monad_(symbol)).
281. Ibid.
282. Lao Tzu, *Tao The Ching*, p. 64, chapter 42.
283. Kline, op. cit. p. 47.
284. Ibid., p. 54.
285. Euclid, *Elements*, Book I, Proposition 47, pp. 349–350.
286. According to Wikipedia, it was Hippasus of Metapontum, a disciple of Pythagoras, who proved that $\sqrt{2}$ is irrational. He did so with the method of contradiction. Let us suppose that $\sqrt{2}$ is rational so that $a^2 = 2b^2$, where a and b are coprime. As a^2 is even, so must a be, let us say $2y$. b must therefore be odd. So $4y^2 = 2b^2$, which means that b must be even. So if $\sqrt{2}$ is rational, b must be both odd and even, which is not possible.
287. Kline, op. cit. p. 56.
288. Euclid, op. cit. pp. 153–155.
289. Kline, op. cit. p. 477.
290. Aristotle XVII, *Metaphysics*, p. 161, Book IV section III , 9 (1005b, 20).
291. Aristotle XVIII, *Metaphysics*, p. 153, Book XII, section VIII, 4 (1073a, 27).
292. Aristotle I, *Prior Analytics*, p. 199, Book I, section I (24a, 15).
293. Codd, ‘Relational Model of Data’, *Communications of the ACM*, Vol. 13, No. 6, June 1970, p. 377.
294. <http://community.middlebury.edu/~harris/Philosophy/Heraclitus.html>.
295. Ibid.
296. Aristotle, *Physics*, Introduction by David Bostock, p. viii.
297. *Physics*, p. 33.
298. Ibid., 193a12–17, pp. 35–36.
299. Snow, *Two Cultures*.
300. Aristotle, *Physics*, II, 3, 194b16–195b28.

301. Aristotle, *Metaphysics*, V, I, 2, 1013a24–35 and 1013v1–3, p. 211.
302. Bohm, *Wholeness and the Implicate Order*, p. 12.
303. Aristotle, *Physics*, IV, 6, 194b22–195b26, p. 92.
304. Euclid, *Elements*, Vol. III, Book XIII, Proposition 18, pp. 507–508.
305. “The pentagram was used by the Pythagoreans as a symbol of recognition between members of the same school, and was called by them Health.” Euclid, *Elements*, Vol. II, Book IV, Proposition 10, pp. 98–99.
306. Kepler, *Harmony of the World*, pp. 116–117, with drawings by Wilhelm Schickard (1792–1635) on p. 111. Kepler also found what he called ‘semisolid congruences’, consisting of star octagons and star decagons with ‘ears’, which make a kind of cube and dodecahedron, respectively, but with gaps that cannot be closed. However, as Badoureau was to discover in 1881, these gaps can be closed with regular triangles and pentagons, forming the stellated truncated hexahedron and small stellated truncated dodecahedron, respectively, numbers 92 and 97 in Wenninger, *Polyhedron Models*.
307. Coxeter et al, ‘Uniform Polyhedra’, *Philosophical Transactions*. 1954, vol. 246A, pp. 401–402.
308. Ibid., p. 402.
309. Ibid.
310. http://en.wikipedia.org/wiki/Uniform_polyhedron.
311. John Skilling, ‘The Complete Set of Uniform Polyhedra’, *Philosophical Transactions*. 6th March 1975, vol. 278A, pp. 119–123.
312. Rouse Ball & Coxeter, *Mathematical Recreations and Essays*, pp. 158–159.
313. Coxeter, et al. op. cit. p. 402.
314. Har’El, ‘Uniform Solution for Uniform Polyhedra’, *Geometriae Dedicata*, 47 (1993), 57–110,
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316. <http://www.software3d.com/>.
317. http://en.wikipedia.org/wiki/Uniform_polyhedron.
318. Wolfram, *New Kind of Science*, p. 3.
319. Grimal, *Dictionary of Classical Mythology*, p. 243, ‘Juno’.
320. Ibid., p. 295, ‘Moneta’.
321. Ibid.
322. OED, ‘superstition’
323. Ibid.
324. Robertson, *Future Work*, p. 126.
325. Davies, *History of Money*, pp. 44–45.
326. Ebrey, *China*, p. 42

327. Davies, op. cit. p. 56.
328. Ibid p. 55.
329. Grimal, op. cit. p. 290, 'Midas'.
330. Davies, op. cit. p. 61.
331. Ibid., p. 62.
332. <http://www.cngcoins.com/>.
333. Davies, op. cit. p. 60.
334. Surprisingly, *tally* has a different etymology, the word coming from Latin *talea* 'stick', on which were made marks indicating the count.
335. Wikipedia articles on gold and silver.
336. 'Archimedes' principle'. *Encyclopaedia Britannica 2008 Ultimate Reference Suite*.
337. <http://en.wikipedia.org/wiki/Archimedes>.
338. From articles on metals in Wikipedia.
339. From articles on metals in *Encyclopaedia Britannica*.
340. http://en.wikipedia.org/wiki/Roman_Republican_coinage, from <http://www.cngcoins.com>.
341. [http://en.wikipedia.org/wiki/Solidus_\(coin\)](http://en.wikipedia.org/wiki/Solidus_(coin)) , from <http://www.cngcoins.com>.
342. [http://en.wikipedia.org/wiki/Sovereign_\(British_coin\)](http://en.wikipedia.org/wiki/Sovereign_(British_coin)).
343. OED.
344. Simpson, *Latin Dictionary*, 'usura', p. 626.
345. http://en.wikipedia.org/wiki/Dark_ages.
346. 'Renaissance'. *Encyclopaedia Britannica 2008 Ultimate Reference Suite*.
347. Toynbee and Myers, *Historical Atlas and Gazetteer*, p. 91.
348. 'Academy', *Encyclopaedia Britannica 2008 Ultimate Reference Suite*, 2008.
349. 'Alexandria', op. cit.
350. Kline, *Mathematics in Western Culture*, p. 80.
351. <http://en.wikipedia.org/wiki/Alexandria#History>.
352. 'Ptolemy I Soter'. *Encyclopaedia Britannica 2008 Ultimate Reference Suite*, 2008.
353. Kline, op. cit. p. 81.
354. <http://ehistory.osu.edu/world/articles/ArticleView.cfm?AID=9>.
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358. Kline, op. cit. p. 82–83.
359. Robertson, *Future Work*, p. 100.
360. The surface area of the sphere and circumscribing cylinder are $4\pi r^2$ and $6\pi r^2$, respectively. The corresponding volumes are $4/3\pi r^3$ and $2\pi r^3$.

361. Archimedes, *Encyclopaedia Britannica 2008 Ultimate Reference Suite*.
362. http://en.wikipedia.org/wiki/Greek_numerals.
363. Unicode has a section of glyphs for these ancient Greek numerals: U+10140 through U+1018F (<http://www.unicode.org/charts/PDF/U10140.pdf>).
364. http://en.wikipedia.org/wiki/Greek_numerals#Hellenistic_zero.
365. Boyer & Merzbach, *History of Mathematics*, pp. 239–240.
366. Kline, op. cit. p. 84.
367. Boyer & Merzbach, *History of Mathematics*, p. 183.
368. Ibid., p. 235.
369. Ibid., p. 265.
370. The word *sine* is due to a mistranslation. The Hindus used the name *jiva* for the half-chord in their trigonometry, in contrast to the full chord of Hipparchus, which became *jiba* in Arabic. When Robert of Chester translated this into Latin, he mistook it for the Arabic word *jaib*, probably because there are no vowel letters in Arabic. As *jaib* means ‘bay’ or ‘inlet’, nothing to do with half-chords of a circle, he translated *jiba* as *sinus*, Latin for ‘bay’ or ‘inlet’. Hence the word *sine*. Ibid., p. 283.
371. Kline, op. cit. pp. 88–93.
372. Ibid., p. 92.
373. Examples of these visualizations are given in Koestler *Sleepwalkers*, p. 48.
374. Chalmers, *What Is this Thing Called Science?* p. 116.
375. Plotinus, *Encyclopaedia Britannica 2008 Ultimate Reference Suite*.
376. <http://en.wikipedia.org/wiki/Neoplatonism>.
377. Plotinus, *Encyclopaedia Britannica 2008 Ultimate Reference Suite*.
378. Neoplatonism in Platonism, *Encyclopaedia Britannica 2008 Ultimate Reference Suite*.
379. Wilber, *Up from Eden*, p. xix.
380. *Oxford Dictionary of Quotations*, letter to C. Schmidt, p. 333.
381. Dryden, *Handbook of Individual Therapy*, p. 79.
382. <http://community.middlebury.edu/~harris/Philosophy/Heraclitus.html>.
383. Happold, *Mysticism*, pp. 71–72. To be moved to Evolution of mind, with references
384. Pagels, *Gnostic Gospels*, p. 19.
385. Pagels, *Adam, Eve, and the Serpent*, p. 65.
386. Berg, *Power of Kabbalah*, p. 250.
387. Vijai Shankar.
388. Nukunu, *Words of Fire*, p. 12.
389. John 8:32.
390. Blau, *Krishnamurti*, p. 85.
391. Pagels, *Beyond Belief*, pp. 136–141.

392. Ibid., pp. 38–39.
393. Osho, *From Unconsciousness to Consciousness*, Folio VIP electronic form.
394. Pagels, op. cit. p. 58.
395. Meyer, *Gospel of Thomas*, p. 27.
396. Pagels, op. cit. p. 80.
397. Ibid., pp. 145–160.
398. John 3:18.
399. John 1:1.
400. Tarnas, *Passion of the Western Mind*, p. 45.
401. John 9:5.
402. John 1:10.
403. John 1:14.
404. Pagels, *Beyond Belief*, p. 251.
405. Meyer, *Gospel of Thomas*, p. 57.
406. Ibid., p. 21.
407. Pagels, op. cit. p. 233.
408. Ibid., p. 170.
409. This is the version agreed at the first council of Constantinople in 381 given at http://en.wikipedia.org/wiki/Nicene_Creed.
410. Pagels, op. cit. pp. 176–177.
411. Ibid., p. 148.
412. Ibid., p. 97.
413. Robinson, *Nag Hammadi Library*.
414. Pagels, *Gnostic Paul*, p. 1.
415. Ibid.
416. Romans 1:14.
417. Pagels, op. cit. p. 7.
418. Freek & Gandy, *Jesus Mysteries*, p. 156.
419. Ibid., p. 8.
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421. Ibid.
422. Romans 5:12.
423. Pagels, *Gnostic Gospels*, p. 132.
424. Romans 5:21.
425. Pagels, *Gnostic Paul*, p. 28.
426. Pagels, *Adam, Eve, and the Serpent*, pp. 111–112.
427. ‘Publick Baptism of Infants’, *Book of Common Prayer* for the Church of England.

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430. Freek & Gandy, *Jesus Mysteries*, p. 4.
431. Ibid., p. 5.
432. Grimal, *Classical Mythology*, 'Dionysus', p. 138.
433. Freek & Gandy, op. cit. pp. 5–6.
434. Baring & Cashford, *Myth of the Goddess*, pp. 547–548.
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442. 1 John 4:16.
443. http://www.vatican.va/holy_father/benedict_xvi/encyclicals/documents/hf_ben-xvi_enc_20051225_deus-caritas-est_en.html.
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448. Shankara & Ramana Maharshi, *Ramana, Shankara*, p. 17, from *Vivekachudamani, Crest Jewel of Discrimination or Wisdom*.
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450. Bowker, *World Religions*, 'Apostolic Succession', p. 82.
451. Ibid., 'Ordination', p. 718.
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453. <http://en.wikipedia.org/wiki/Tirthankara>.
454. Fischer-Schreiber, *Eastern Philosophy and Religion*, 'Bodhidharma', pp. 38–39.
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461. Fischer-Schreiber, *Eastern Philosophy and Religion*, 'Shankara', pp. 38–39.
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466. Ibid., 'Vishishtadvaita-Vedanta', p. 408.
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469. Ibid.
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472. Ibid., "Umma", p. 1003.
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475. Ibid.
476. Bowker, op. cit. 'Muhammad', p. 663.
477. Sale, tr., *Korân*, 7.179/180, p. 163.
478. http://en.wikipedia.org/wiki/99_names_of_God.
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482. Bowker, op. cit. 'Jihad', p. 501.
483. <http://en.wikipedia.org/wiki/Mujahid>.
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485. Ibid., 'Qur'an', p. 786.
486. <http://en.wikipedia.org/wiki/Medina>.
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488. Ibid., "Umma", p. 1003.
489. Ibid., 'Muhammad', p. 663.
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496. Ibid., ‘Tasawwuf’, p. 955.
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508. Ibid.
509. Wood, *First Civilizations*, p. 153.
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523. <http://en.wikipedia.org/wiki/Ragnarök>.
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528. *American Heritage Dictionary of English*, ‘rune’, electronic version.
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539. Rubenstein, *Aristotle's Children*, p. 6.
540. Ibid., p. 298.
541. Ibid., p. 6.
542. Ibid., p. 219.
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544. Rubenstein, op. cit. p 245.
545. OED. The word *Airesis* is used in Acts 5:17, 15:5, 24:5, 24:14, 26:5, 28:22, 1 Corinthians 11:19, Galatians 5:20, and 2 Peter 2:1.
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573. http://en.wikipedia.org/wiki/Ontological_Argument.
574. Blumenau, *Philosophy and Living*, pp. 116–117.
575. Russell, *Western Philosophy*, p. 428.
576. Dates and birthplaces from Wikipedia.
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578. Flew, ed. *Dictionary of Philosophy*, entries for nominalism, realism, and idealism.
579. Russell, op. cit. p. 13.
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614. Ibid., p. 9.
615. Ibid., p. 252.
616. Ibid., p. 279.
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621. <http://en.wikipedia.org/wiki/Sonnet>
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629. http://en.wikipedia.org/wiki/File:Theodora_mosaik_ravenna.jpg.
630. http://blog.chosun.com/web_file/blog/342/7342/2/22.jpg.
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632. Ibid., p. 157.
633. Ibid., pp. 161–164.

634. For instance, angles $LAF(\alpha)$ and $LFA(\beta)$ can be calculated from the basic dimensions of the hallway and the distance $AF(a)$ is known. The formula for the height of triangle LAF is then:

$$b = \frac{a \tan \alpha \tan \beta}{\tan \alpha + \tan \beta}$$

635. Kline, op. cit. p. 167.

636. chiaroscuro, *Encyclopædia Britannica 2008 Ultimate Reference Suite*.

637. <http://en.wikipedia.org/wiki/Chiaroscuro>.

638. Plainchant, *Grove Concise Dictionary of Music*

639. mode, *Encyclopaedia Britannica*.

640. Diatonic, *Grove*.

641. Tritone, *Grove*.

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644. Consonance, *Grove*.

645. [http://en.wikipedia.org/wiki/Cent_\(music\)](http://en.wikipedia.org/wiki/Cent_(music)).

646. Ferguson, *Nobleman and his Housedog*, p. 232.

647. http://en.wikipedia.org/wiki/Pythagorean_tuning.

648. Kepler, *Harmony of the World*, p. 138.

649. http://en.wikipedia.org/wiki/Just_intonation.

650. Just intonation, *Grove*.

651. [http://en.wikipedia.org/wiki/Harmonic_series_\(music\)](http://en.wikipedia.org/wiki/Harmonic_series_(music)).

652. polyphony, op. cit. p. 630.

653. Ibid.

654. http://en.wikipedia.org/wiki/The_Well-Tempered_Clavier.

655. See, for instance, Douglas Hofstadter's book *Gödel, Escher, Bach*.

656. <http://en.wikipedia.org/wiki/Bach>.

657. <http://en.wikipedia.org/wiki/Opera>.

658. <http://en.wikipedia.org/wiki/Oratorio>.

659. Corelli, Archangelo, *Grove Concise Dictionary of Music*, p. 185.

660. http://en.wikipedia.org/wiki/Concerto_grosso.

661. OED, *concert* verb.

662. Concerto grosso, *Grove Concise Dictionary of Music*, p. 178.

663. OED.

664. http://en.wikipedia.org/wiki/Musical_instrument_classification.

665. <http://en.wikipedia.org/wiki/Sachs-Hornbostel>.

666. organ, *Grove Concise Dictionary of Music*, p. 582.

667. <http://en.wikipedia.org/wiki/Harpsichord#Mechanism>.
668. piano forte, *Grove Concise Dictionary of Music*, p. 582.
669. oboe, op. cit. p. 569.
670. <http://en.wikipedia.org/wiki/Shawm>
671. viol, violin, *Grove Concise Dictionary of Music*, pp. 861–862.
672. <http://en.wikipedia.org/wiki/China>.
673. <http://en.wikipedia.org/wiki/Paper>.
674. <http://en.wikipedia.org/wiki/Printing>.
675. http://en.wikipedia.org/wiki/Movable_type.
676. Steinberg, *Five Hundred Years of Printing*, pp. 17–18.
677. <http://en.wikipedia.org/wiki/PostScript>.
678. Adobe Systems, *PostScript Language Reference Manual*, curveto operator, p. 393.
679. http://en.wikipedia.org/wiki/Bezier_curve.
680. Naphy, *Protestant Revolution*, p. 24.
681. McGrath, *Christianity's Dangerous Idea*, pp. 39–40.
682. Ibid., pp. 41–42.
683. An English translation of the original Latin text is 2743 words long, available at http://www.ctsfw.edu/etext/luther/theses/theses_e.asc.
684. McGrath, op. cit. pp. 46–47.
685. Ibid., pp. 48–49.
686. Naphy, op. cit. p. 41.
687. McGrath, op. cit. p. 49.
688. Naphy, op. cit. p. 41.
689. MacCulloch, *Reformation*, pp. 127–128.
690. McGrath, op. cit. p. 51.
691. Naphy, op. cit. p. 43.
692. http://en.wikipedia.org/wiki/Diet_of_worms.
693. McGrath, op. cit. p. 55–56.
694. Ibid., pp. 56–58.
695. http://en.wikipedia.org/wiki/Katharina_von_Bora.
696. <http://www.timesonline.co.uk/tol/comment/faith/article2056515.ece?print=yes&randnum=1195194988801>.
697. http://en.wikipedia.org/wiki/Major_religious_groups#Largest_religions_or_belief_systems_by_number_of_adherents. In this article, the number of adherents to Christianity and Roman Catholicism is given as 2.1 and 1.05 billion, respectively.

698. http://www.bbc.co.uk/pressoffice/pressreleases/stories/2007/08_august/21/protestant.shtml. This series broadcast on BBC4 in September 2007 does not appear to be available in DVD. However, Naphy, *Protestant Revolution* is advertised as a plug-in to the series, with a somewhat different structure.
699. <http://en.wikipedia.org/wiki/Aristotle>.
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703. Ibid., p. 552.
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705. *American Heritage Dictionary of English*, ‘supernatural’.
706. OED, ‘physics’ and ‘natural philosophy’.
707. OED, ‘science’.
708. <http://en.wikipedia.org/wiki/Science>. However, the OED gives the date as 1840, with this quotation: “We need very much a name to describe a cultivator of science in general. I should incline to call him a Scientist.”
709. All definitions from the *Concise Oxford English Dictionary*.
710. Ibid.
711. Koestler, *Sleepwalkers*, pp. 194–195.
712. Ibid., p. 154.
713. Ibid., pp. 130–131.
714. Ibid., p. 203.
715. Ibid., pp. 194–195.
716. Ibid., pp. 158–159.
717. Ibid., pp. 169–175.
718. Ibid., p. 177.
719. Thoren, *Lord of Uraniborg*, p. 10.
720. Ibid., p. 1. Although Tycho’s family was not related to the Danish royal family, Tycho’s maternal grandfather’s maternal grandmother, Birgitta Krisiensdatter (Vasa), was a sister of the grandfather of Gustav I Erikson, King of Sweden and founder of the Vasa dynasty, second cousin to Tycho’s grandfather (Ibid., p 3). The last of this dynasty was Kristina, Tycho’s fourth cousin, once removed, who invited Descartes to Sweden in October 1649 to discuss philosophy. Sadly, she demanded that they meet at 5 in the morning in the middle of the winter. “The premises were icy, and in February 1650 Descartes fell ill with pneumonia and died ten days later; Christina was distraught with guilt.” (http://en.wikipedia.org/wiki/Christina_of_Sweden#Visit_from_Descartes)

721. Ibid., pp. 4–5 and Christianson, *Tycho's Island*, pp. 8–9. It seems that Tyge did not know who his biological parents were until later life. His uncle lived in Tosterup Castle, well over 100 kms from Knutstorp Castle, where his father lived. So while he visited Knutstorp from time to time, he was more like a cousin to his siblings than their brother.

722. Ferguson, *Nobleman and his Housedog*, p. 9. Peder Oxe (1520-1575) was a brilliant financier, becoming Danish finance minister in his 30s before falling out with Frederick II, Tycho's patron, fleeing into exile in 1558. However, Frederick II fell into financial difficulties because of the stress of the Northern Seven Years War and he was compelled to recall Peder to Denmark in 1566, appointing him Steward of the Realm, effectively prime minister, a post Peder held until his death (http://en.wikipedia.org/wiki/Peder_Oxe).

723. Tyge entered Copenhagen University on 19th April 1559, when he was thirteen, not to study for a university degree, for this was not necessary for noblemen's sons. Rather his widely diversified programme of study was intended to prepare him for a career as a statesman. (Thoren, op. cit., p. 10 and Koestler, op. cit., p. 287.)

724. http://en.wikipedia.org/wiki/Solar_eclipse_of_August_21,_1560.

725. Koestler, op. cit., p. 287.

726. Thoren, op. cit. p. 13.

727. Christianson, *Tycho's Island*, p. 10.

728. Thoren, op. cit., pp. 48-50.

729. Ibid., p. 55.

730. http://en.wikipedia.org/wiki/SN_1572.

731. Ferguson, op. cit. pp. 16-17.

732. Koestler, op. cit. p. 292.

733. Thoren, op. cit., pp. 57-58.

734. Koestler, op. cit. pp. 290–293.

735. Christianson, op. cit. p 14.

736. Ibid., pp. 21-25.

737. Ibid., pp. 28-37.

738. Ibid., p. 58. Christianson tells us, “Humanist scholars like Tycho Brahe used the word *familia* in the ancient Roman sense, though in a sixteenth-century context. To them, the *familia* was not what we would call a ‘family’; rather, it meant all those who lived under the authority of a *paterfamilias*, or patriarch.” The Latin word *familia* meant ‘a household of slaves or servants’, from *famulus* ‘a house-servant, slave’.

In Part Two of *On Tycho's Island*, almost 40% of the book, Christianson provides brief biographies of nearly 100 people who were coworkers or part of the *familia* at one time or another, including Kepler and Tycho's sister Sophie, who he considered to be one of the most learned women of her day.

739. Ibid., p. 37.

740. Painting of Uraniborg by Henrik Hanson in 1862, now hanging in Frederiksborg Castle in North Zealand in Denmark. (Thoren, op. cit. p. 145.)

741. Ferguson, op. cit., pp. 44-45.

742. Ibid., p. 107.

743. Ibid., p. 132.

744. Wennberg, *Tänk, om det är så!*, pp. 52 and 47.

745. Thoren, op. cit. pp. 175-181.

746. Wennberg, op. cit. pp. 47-73.

747. Thoren, op. cit. p. 250.

748. Koestler, op. cit. p. 48. Koestler points out that Tycho's system was not unlike the Egyptian systems of Herakleides, who viewed the inner planets circling the Sun, while the Sun and outer planets revolve around a stationary Earth. So while Herakleides's system was a half-way compromise, Tycho's was a three-quarters one. The caption for the Tychonic planetary system in *De Mundi* reads (Thoren, p. 252):

NOVA MVNDANI SYSTEMATIS HYPOTYPOSIS AB
AUTHORE NUPER ADINUENTA, QUA TUM VETUSILLA
PTOLEMAICA REDUNDANTIA & INCONCINNITAS,
TUM ETIAM RECENS COPERNIANA IN MOTU
TERRÆ PHYSICA ABSURDITAS, EXCLU-
DUNTUR, OMNIAQUE APPAREN-
TIIS CŒLESTIBUS APTISSIME
CORRESPONDENT.

749. From commentary in multimedia presentation at Stjerneborg, Hven, July 2010.

750. Thoren, op. cit., pp.123-127.

751. Ibid., pp. 250-260.

752. Ibid., p. 247.

753. Rosen, *Three Imperial Mathematicians*, pp. 11-14 and 38. The letter was written on 21st December 1588 to Heinrich Rantzau, the governor of Holstein, who had first noticed Reimer's abilities.

754. Christianson, op. cit., p. 89.

755. Thoren, op. cit., p. 255.

756. Christianson, op. cit. pp. 107-113.

757. Thoren, op. cit., p. 259.

758. Koestler, op. cit. p. 290.

759. Christianson, op. cit. pp. 313- 319.

760. Thoren, op. cit., pp. 297-299.

761. "By the end of 1573, [when he was 27,] Tycho had been using astronomical instruments for ten years" (*Ibid.*, p. 75), building his first self-designed instrument in 1569 (*Ibid.*, p. 32).

762. Both Christianson and Ferguson narrate this sorry saga through many chapters and pages.

763. Thoren, *op. cit.*, p. 375.

764. Christianson, *op. cit.*, pp. 207-210.

765. Thoren, *op. cit.*, pp. 410 to 413, a Tycho letter to cousin Rosenkranz.

766. Rosen, *op. cit.*, p. 80. Letter from Tadeáš Hájek to his friend Tycho on 19th/29th August 1591.

767. Ferguson, *op. cit.* p. 231.

768. Koestler, *op. cit.*, p. 305. Koestler refers to Benatek, but all other references are to Benatky. It is known as Benátky nad Jizerou in Czech.

769. Caspar, *Kepler*, p. 119.

770. *Ibid.*, pp. 121-122. Koestler, *op. cit.*, p. 316, says that the appointment was made two days after Tycho's internment, specifically mentioning 6th November 1601. So it is unclear whether Kepler knew that he had been appointed as the Imperial Mathematician when he attended Tycho's rather grand funeral.

771. *Ibid.*, p. 100.

772. Figure 11.45 on page 923 is the most familiar portrait of Johannes Kepler in the Benedictine monastery in Krems. However, Caspar, *op. cit.*, pp. 389-390 doubts its authenticity without giving any reasons. The portrait on the front cover of his biography is hardly to be found on the Web, and doesn't seem to fit with any of four portraits that he considers to be genuine. Sadly, the book does not contain reproductions of any of the portraits that he referred to.

773. Between 1858 and 1871, Christian Frisch published all Kepler's known writings in their original Latin and Medieval German in eight volumes called *Opera Omnis* (O.O.), some 7,000 folio pages in all, available in various forms on the Web. Then in 1938, Max Caspar (1880-1956), the author of Kepler's definitive biography *Kepler* began publishing Kepler's writings anew, collectively called *Johannes Kepler Gesammelte Werke* (G.W.), reaching twenty-two volumes by 1998. (http://www.astro.uni-bonn.de/~pbrosche/persons/kepler/kepler_gw.html)

774. Baumgardt, *Kepler*, pp. 19-20.

775. Kepler, *New Astronomy*, p. 236.

776. Ferguson, *op. cit.* p. 219. Koestler, *op. cit.* pp. 237-238 translates *canis domestis* as 'lap-dog', giving a general reference as O.O., Vol. V, p. 476 *seq.*, specifically Vol. V, p. 483. However, he doesn't point out that this piece of self-reflection was published as endnote 16

to Chapter VII, Book IV 'Epilogue on Sublunary Nature' in Kepler's greatest masterpiece *Harmonice Mundi*. Sadly, A. M. Duncan did not translate these endnotes in *The Harmony of the World*, this specific one referring to p. 378 in that book.

777. Koestler, op. cit., p. 227.

778. Caspar, op. cit. p. 30.

779. Ferguson, op. cit., pp. 92-93.

780. Caspar, op. cit., p. 34.

781. Ferguson, op. cit., p. 93.

782. Koestler, op. cit., p. 231.

783. Ferguson, op. cit., p. 91, Koestler, op. cit., p. 234.

784. Caspar, op. cit., pp. 37-38.

785. Ferguson, op. cit., p. 103.

786. Caspar, op. cit., p. 39.

787. Koestler, op. cit., p. 235.

788. Koestler, op. cit., p. 237.

789. Ferguson, op. cit., p. 128.

790. Caspar, op. cit., pp. 39-40.

791. Ferguson, op. cit., p. 156

792. Ferguson, op. cit., p. 158

793. Caspar, op. cit., pp. 49-50

794. Ibid., pp. 51-52

795. Ibid., p. 51., Ferguson, op. cit., p. 161. Kepler, *New Astronomy*, Part II, Chapter 7, pp. 183-184, tells us how Kepler came to take up the post in Graz.

796. Ferguson, op. cit., 162.

797. Kepler, *Secret of the Universe*, preface, pp. 63-65.

798. Ferguson, op. cit., pp. 181-190.

799. Ibid., p. 184.

800. Kepler, *Secret of the Universe*, ch 20, p. 199.

801. Ibid., ch 20, note 3, p. 203.

802. Koestler, op. cit., pp. 260-261.

803. Kepler, *Secret of the Universe*, pp. 65-67.

804. Ferguson, op. cit., p. 182.

805. Kepler, *Secret of the Universe*, p. 67.

806. Ibid., p. 157.

807. Ibid.

808. http://en.wikipedia.org/wiki/Platonic_solid.

809. Distances of the planets from the Sun taken from Wikipedia's pages for the planets.

810. Caspar, op. cit., p. 65.
811. Martens, *Kepler's Philosophy*, pp. 48-49.
812. Voelkel, *Composition*, p. 2.
813. Ferguson, op. cit., p. 202.
814. Ibid., p. 192.
815. Caspar, op. cit., p. 66.
816. Kepler, *Secret of the Universe*, Introduction by E. J. Aiton, p. 21.
817. http://www.lib.noaa.gov/collections/rare_archival.html.
818. Caspar, op. cit., pp. 64-65.
819. Ferguson, op. cit., p. 201.
820. http://en.wikipedia.org/wiki/Ferdinand_II,_Holy_Roman_Emperor.
821. Caspar, op. cit., p. 79.
822. Ibid., p. 113.
823. Ibid., pp. 111-115.
824. Rosen, op. cit., p. 114.
825. Koestler, op. cit., p. 302.
826. Rosen, op. cit., p. 34.
827. Ibid., p. 110.
828. Kepler, *New Astronomy*, Part II, Chapter 7, p. 184.
829. Koestler, op. cit., p. 303.
830. Caspar, op. cit., pp. 89-90.
831. Ibid., p. 85.
832. Ibid., pp. 80-81.
833. Ibid., pp. 99-100.
834. Ibid., p. 71.
835. Ibid., p. 87.
836. Ibid., p. 105.
837. Ibid., p. 91.
838. Ibid., pp. 100-101.
839. Ibid., p. 102.
840. Ibid., pp. 106-107.
841. This is the Rosenkrantz who was immortalized in Shakespeare's *Hamlet*, along with Knud Gyldenstierne, the son of one of Tycho's many second cousins. Rosenkrantz and Gyldenstierne had met the young William Shakespeare when on a tour of duty with a Danish legation in 1592. Thoren, op. cit., p. 428.
842. Caspar, op. cit. p. 108.
843. Ibid., p. 121.

844. Ferguson, op. cit., p. 278.
845. Rosen, op. cit. pp. 312-313.
846. Kepler, *New Astronomy*, Part I, Chapter 6, p. 157.
847. Thoren, op. cit., p. 446.
848. Caspar, *Kepler*, pp. 139-141.
849. Koestler, op. cit., p. 350.
850. Caspar, op. cit. p. 139.
851. Ibid., p. 186.
852. Ibid., p. 211.
853. Ibid., pp. 213-220.
854. Ferguson, op. cit., p. 151.
855. Caspar, op. cit., p. 258.
856. Ibid., p. 321.
857. Ibid., pp. 345-351.
858. Ibid., pp. 174-175, 202, 206.
859. Koestler, op. cit., pp. 405-410.
860. Caspar, op. cit. p. 364.
861. http://en.wikipedia.org/wiki/Conic_section#Eccentricity.2C_focus_and_directrix.
862. http://en.wikipedia.org/wiki/Kepler%27s_laws_of_planetary_motion. How the polar coordinates can be derived from the Cartesian ones is shown at <http://mathworld.wolfram.com/Ellipse.html>.
863. I discovered the distinction between ϕ and φ from Whiteside's paper 'Keplerian Planetary Eggs', where he confusingly used the symbol θ for both angles in figures 7 and 8. In both cases, he said $r=1+\cos\theta$, regarding a as unity. See also Note 911 on page 1186.
864. <http://en.wikipedia.org/wiki/Apsis>.
865. Kepler, *New Astronomy*, Part I, Chapter 4, p. 133.
866. Kepler, *New Astronomy*, Introduction to Part IV, p. 430.
867. Caspar, *Kepler*, p. 126.
868. Ferguson, *Nobleman and his Housedog*, p. 317.
869. Ibid., p. 320.
870. Ibid., p. 342.
871. Kepler, *New Astronomy*, title page, p. 27. Koestler (*The Sleepwalkers*, p. 317) translated the Latin title a little differently, calling Tycho Brahe 'The Noble', rather than 'Gent', as Donahue did.
872. Koestler, *Sleepwalkers*, pp. 10-11.
873. Ibid., p. 333.
874. Martens, *Kepler's Philosophy*, p. 5.

875. Voelkel, *Astronomia nova*, p. xiv.
876. Koestler, *Sleepwalkers*, p. 318.
877. Voelkel, *Astronomia nova*, p. 247.
878. Kepler, *New Astronomy*, pp. 45-112.
879. Kepler, *New Astronomy*, Summary of chapters, p. 78.
880. Kepler, *New Astronomy*, p. 45.
881. Kepler, *New Astronomy*, p. 46.
882. Kepler, *New Astronomy*, p. 64.
883. Kepler, *New Astronomy*, pp. 65-66.
884. Koestler, *Sleepwalkers*, p. 351.
885. <http://www.keplersdiscovery.com/Hypotheses.html>.
886. Kepler, *New Astronomy*, Part I, Chapter 1, p. 119. <http://www.keplersdiscovery.com/Hypotheses.html> shows a dynamic model.
887. Kepler, *New Astronomy*, Translator's introduction, p. 7.
888. In Kepler's light-hearted dedication to Rudolf II, Kepler referred to the war on Mars with these words: "I myself shall occupy myself with Astronomy, and, riding in the triumphal car, will display the remaining glories of our captive that are particularly known to me, as well as all the aspects of the war, both in its waging and in its conclusion." Kepler, *New Astronomy*, p. 31.
889. Kepler, *New Astronomy*, Part II, Chapter 16, p. 256. Voelkel (*Composition*, p. xiii) tells us that Owen Gingerich discovered that Kepler's calculations were an interative process, which, using a modern computer, could converge on the solution in just nine iterations.
890. Kepler, *New Astronomy*, Part I, Chapter 14, p. 233. Kepler used the Greek word *atallanta* 'equal in weight' in the title of this chapter, which Donahue has translated as *librate* rather than *oscillate*, from Latin *libra* 'balance'. The original meaning of the transitive verb 'to place in scales, weigh; to poise, balance' was not used after 1674, when an intransitive meaning arose meaning 'to oscillate like the beam of a balance', changing the etymological meaning from stillness to movement, very confusing.
891. Ferguson, *Nobleman and his Housedog*, p. 19.
892. Ibid., p. 302.
893. Ibid., p. 304.
894. Kepler, *New Astronomy*, Part II, Chapter 19, p. 286.
895. Kepler, *New Astronomy*, Part III Title, p. 303.
896. Einstein, Introduction to Baumgardt, *Kepler*, p. 10.
897. Ferguson, *Nobleman and his Housedog*, pp. 304-308.
898. Ibid., p. 309, from Kepler, *New Astronomy*, Part III, Chapter 32, pp. 372-375.

899. Kepler, *New Astronomy*, Part III, Chapter 34, pp. 390-391. (William Gilbert, *De magnete magneticisque corporibus et de magno Magnete Tellure physiologia nova*, London 1600.)
900. Kepler, *New Astronomy*, Chapter 32 summary, p. 89.
901. Kepler, *New Astronomy*, Translator's Glossary, pp. 23-24.
902. Koestler, *Sleepwalkers*, pp. 330-331.
903. Ibid., p. 331.
904. Kepler, *New Astronomy*, Part III, Chapter 40, p. 418.
905. Ferguson, *Nobleman and his Housedog*, p. 316.
906. Ibid., p. 318.
907. Kepler, *New Astronomy*, Part IV, Chapter 44, p. 454.
908. Koestler, *Sleepwalkers*, pp. 333-334.
909. Ferguson, *Nobleman and his Housedog*, p. 318.
910. Kepler, *New Astronomy*, Part IV, Chapter 56, p. 543.
911. Koestler, *Sleepwalkers*, pp. 336-337. Koestler used the symbol β for the longitude, without indicating whether this referred to ϕ or φ in Figure 11.49 on page 941. Voelkel (*Composition*, p. 197) seems to be in a similar dilemma for he has marked β with a question mark, denoting both ϕ and φ . Caspar (*Kepler*, p. 134) suggests that Kepler saw the figure of 429 as the difference between the semi-major and semi-minor axes, which Kepler described as half 858 units, with which he had been working. Indeed, such a correlation would indeed have indicated that the orbit is an ellipse, as Koestler suggests, for what appears to be an erroneous reason. This is but one of many reasons why even the commentators do not always help to understand Kepler's rather strange language.
912. Ferguson, *Nobleman and his Housedog*, p. 319. Koestler (*Sleepwalkers*, p. 337) translated *via buccosa* as 'chubby-faced', which seems to miss the point of the original Latin.
913. Kepler, *New Astronomy*, Part IV, Chapter 58, p. 576.
914. Ibid., p. 43.
915. Koestler, *Sleepwalkers*, pp. 351.
916. Caspar, *Kepler*, p. 239.
917. Ferguson, *Nobleman and his Housedog*, p. 333.
918. Ibid., p. 339, Letter to Wacker von Wackenfels (Caspar, *Kepler*, p. 420).
919. Kepler, *New Astronomy*, Title page, p. xlivi.
920. Ibid., Book I, p. 17.
921. Heath's note to Euclid's Proposition 10 in Book IV (Euclid, *Elements*, Vol. 2, p. 98).
922. Kepler, *New Astronomy*, Book III, Chapter II p. 163.
923. Ibid., pp. 310-311.
924. Koestler, *Sleepwalkers*, pp. 396.
925. Kepler, *New Astronomy*, Book V, Chapter III p. 405.

926. Ibid., pp. 413-414.
927. http://en.wikipedia.org/wiki/Kepler%27s_laws_of_planetary_motion.
928. Kepler's laws of planetary motion, *Encyclopaedia Britannica 2008 Ultimate Reference Suite*.
929. Ferguson, *Nobleman and his Housedog*, p. 347-351.
930. Koestler, *Sleepwalkers*, p. 361.
931. Ibid., p. 359.
932. Ibid., p. 435.
933. Ibid., p. 360.
934. Galileo. *Encyclopaedia Britannica 2008 Ultimate Reference Suite*.
935. Hawking, *Brief History of Time*, p. 180.
936. Galileo. *Encyclopaedia Britannica 2008 Ultimate Reference Suite*.
937. <http://en.wikipedia.org/wiki/Telescope>.
938. Koestler, op. cit. p. 369.
939. <http://news.bbc.co.uk/2/hi/science/nature/7827732.stm>.
940. <http://en.wikipedia.org/wiki/Telescope>.
941. Galileo. *Encyclopaedia Britannica 2008 Ultimate Reference Suite*.
942. Koestler, op. cit. pp. 368-373.
943. <http://en.wikipedia.org/wiki/Galileo>.
944. Koestler, op. cit. p. 373.
945. Ibid., p. 359.
946. Ibid., p. 383.
947. Ibid.
948. Ibid., p. 361.
949. Ibid., p. 363.
950. Ibid., p. 434, taken from *De Moto*, a manuscript circulated about 1590.
951. Ibid., p. 432.
952. Galileo. *Encyclopaedia Britannica 2008 Ultimate Reference Suite*.
953. http://en.wikipedia.org/wiki/Letter_to_Grand_Duchess_Christina.
954. Koestler, op. cit. p. 439.
955. <http://www.galilean-library.org/manuscript.php?postid=43841>.
956. Galileo. *Encyclopaedia Britannica 2008 Ultimate Reference Suite*.
957. Koestler, op. cit. p. 439.
958. Ibid., pp. 439-445.
959. <http://www.galilean-library.org/manuscript.php?postid=43841>.
960. Koestler, op. cit. pp. 446-449.
961. Ibid., pp. 449-458.

- 962. Ibid., p. 460.
- 963. Ibid., pp. 461–462.
- 964. Ibid., pp. 461–464.
- 965. Ibid., pp. 480–484.
- 966. Publisher's blurb for de Santillana, *Crime of Galileo*.
- 967. Koestler, op. cit. pp. 487–491.
- 968. Ibid., p. 610.
- 969. Galileo. *Encyclopaedia Britannica 2008 Ultimate Reference Suite*.
- 970. http://en.wikipedia.org/wiki/E_pur_si_muove!.
- 971. Koestler, op. cit. p. 502.
- 972. Galileo. *Encyclopaedia Britannica 2008 Ultimate Reference Suite*.
- 973. Ibid.
- 974. Personal experience from 1987 to 1994.
- 975. <http://www.newtonproject.sussex.ac.uk/prism.php?id=1>.
- 976. <http://www.newtonproject.sussex.ac.uk/prism.php?id=20>.
- 977. http://en.wikipedia.org/wiki/Earl_of_Portsmouth.
- 978. <http://www.newtonproject.sussex.ac.uk/prism.php?id=21>.
- 979. <http://www.newtonproject.sussex.ac.uk/prism.php?id=23>.
- 980. White, *Isaac Newton: The Last Sourcerer*, p. 3.
- 981. Ibid., p. 106.
- 982. <http://www isaac-newton.org/>.
- 983. Westfall, *Never at Rest*, pp. 40–44.
- 984. White, op. cit. p. 9.
- 985. Storr, *Dynamics of Creativity*, pp. 67–70.
- 986. Ibid., pp. 85–86.
- 987. Storr, *Solitude*, p. ix.
- 988. White, op. cit. pp. 15–16.
- 989. Bowker, *Dictionary of World Religions*, 'Arius', p. 88.
- 990. Ibid., 'Arianism', pp. 87–88.
- 991. OED.
- 992. Bowker, op. cit. 'Trinity', p. 990.
- 993. Genesis 1:27, *Tanakh*, p. 4.
- 994. Matthew 28:19.
- 995. Bowker, op. cit. 'Arius', p. 88.
- 996. White, op. cit. p. 154.
- 997. Ibid., p. 46.
- 998. Westfall, op. cit. p. 67.

999. Ibid., p. 102.
1000. White, op. cit. p. 64.
1001. Westfall, op. cit. p. 179.
1002. Ibid., p. 180.
1003. Ibid., p. 206.
1004. Manuel, *Portrait of Isaac Newton*, p. 69.
1005. Westfall, op. cit. p. 179.
1006. Ibid., p. 333.
1007. Ibid., p. 267.
1008. Ibid., p. 236.
1009. White, op. cit. p. 153.
1010. Ibid., p. 154.
1011. Ibid., pp. 153–154.
1012. <http://www.newtonproject.sussex.ac.uk/prism.php?id=26>.
1013. Iliffe, *Newton*, p. 72.
1014. Manuel, op. cit. p. 30.
1015. Ibid., p. 28
1016. Ibid., p. 30.
1017. Way, tr. *Cloud of Unknowing*, p. viii.
1018. White, op. cit. pp. 25–28.
1019. Manuel, op. cit. p. 44.
1020. Westfall, op. cit. pp. 59–60.
1021. The biographers give different first names for Mr Stokes, as does a quick search of the web.
1022. Manuel, op. cit. p. 60.
1023. White, op. cit. p. 20.
1024. Westfall, op. cit. p. 58.
1025. Ibid., p. 51.
1026. <http://special.lib.gla.ac.uk/exhibns/month/nov2003.html>.
1027. Westfall, op. cit. p. 233.
1028. Ramsay, *Alchemy*, p. 7.
1029. Ibid., p. 5.
1030. Ibid., p. 6.
1031. Ibid., p. 9.
1032. White, op. cit. p. 110.
1033. Ramsay, op. cit. p. 41.
1034. White, op. cit. p. 120.

1035. Barnhart, *Dictionary of Etymology*, 'alchemy', p. 22 and 'found', p. 404.
1036. Westfall, op. cit. p. 154.
1037. Ibid.
1038. White, op. cit. p. 86.
1039. Ibid., p. 87.
1040. Voltaire, *Letters on England*, p. 68.
1041. Ibid., p. 79
1042. Maxwell, James Clerk. *Encyclopaedia Britannica 2008 Ultimate Reference Suite*.
1043. Ibid., Faraday, Michael.
1044. White, op. cit. p. 27.
1045. Westfall, op. cit. pp. 80–84.
1046. Ibid., p. 123.
1047. Ibid., p. 137.
1048. Ibid., pp. 89–97.
1049. Ibid., pp. 105–123.
1050. Judicial astrology is the art of forecasting future events by calculation of the planetary and stellar bodies and their relationship to the Earth. The term *judicial astrology* was mainly used in the Middle Ages and early Renaissance to mean the type of astrology that was considered to be heretical by the Catholic church, distinguished from 'natural astrology' such as medical astrology and meteorological astrology, which were seen as acceptable because they were a part of the natural sciences of the time. Today this distinction is largely obsolete. (http://en.wikipedia.org/wiki/Judicial_astrology)
1051. Westfall, op. cit. pp. 98–102.
1052. The year 1666 seems to have played a similar role in the middle of the seventeenth century to the year 2000 in our times because 666 is the Number of the Beast in Revelations 13:18. It is also interesting to note that 1666 is known for having all the Roman numerals, used only once, in order from biggest to smallest value (MDCLXVI = 1666).
1053. Westfall, op. cit. p. 142.
1054. Ibid., pp. 402–404.
1055. Ibid.,
1056. Ibid., pp. 404–405.
1057. Newton, *Principia*, p. 383.
1058. Ibid., pp. 416–417.
1059. <http://royalsociety.org/news.asp?id=3880>.
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CHAPTER 11. THE CRISIS OF THE MIND

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CHAPTER 12. THE PROSPECTS FOR HUMANITY

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166. Augustine, *Confessions*, p. 145, (8.7.17).

167. Osho, *From Sex to Superconsciousness*.
168. Nukunu, *Not Until You Die*, pp. 132-137.
169. Campbell, *Hero*, pp. 126 and 130.
170. Ibid., p. 148.
171. Ibid., p. 151.
172. Ibid., p. 188 and 190.
173. See for instance, <http://www.physical-immortality-now.com/>.
174. Pagels, *Gnostic Gospels*, p. 154.
175. Forman, 'Mysticism, Language and the Via Negativa', *Journal of Consciousness Studies*, Vol. 1, No. 1 1994, pp. 39-40.
176. A peer-reviewed, international, multi-disciplinary journal intended to explore 'controversies in science and the humanities', with specific reference to the emerging science of consciousness.
177. Forman, op. cit. pp. 41-42.
178. Leibniz did not coin the term *perennial philosophy*. This "was first used in the 16th century by Agostino Steuco in his book entitled *De perenni philosophia libri X* (1540), in which scholastic philosophy is seen as the Christian pinnacle of wisdom to which all other philosophical currents in one way or another point." (http://en.wikipedia.org/wiki/Perennial_philosophy)
179. Huxley, *Perennial Philosophy*, p. vii.
180. Fischer-Schreiber, et al, *Encyclopedia of Eastern Philosophy and Religion*, article on 'Benares discourse', p. 30.
181. Ibid., article on 'Four noble truths', p. 109.
182. Ibid., article on 'Eightfold path', p. 98.
183. Bowker, *Oxford Dictionary of World Religions*, article on 'Ashtangika-marga', p. 101.
184. <http://www.rightlivelihood.org/>.
185. Fischer-Schreiber, op. cit. article on 'Eightfold path', pp. 97-98.
186. Watts, *Way of Zen*, p. 17.
187. Fromm, *Man for Himself*, p. 48.
188. Nhat Hanh, *For a Future to be Possible*. The five precepts are: Reverence for life, Generosity, Sexual responsibility, Deep listening and loving speech, and Diet for a mindful society.
189. Exodus 20:2-17 and Deuteronomy 5:6-21. For the record, a short version of the ten commandments is: Thou shalt have no other gods before me, Thou shalt not make unto thee any graven image, Thou shalt not take the name of the LORD thy God in vain, Remember the Sabbath day, to keep it holy, Honour thy father and thy mother, Thou shalt not kill,

Thou shalt not commit adultery, Thou shalt not steal, Thou shalt not bear false witness against thy neighbour, and Thou shalt not covet.

190. Fischer-Schreiber, op. cit. article on *pratimoksha*, p. 276.
191. Ibid., article on *shunyata*, p. 330.
192. For instance, Ken Wilber tells how he was able to stop the alpha, beta, and theta waves in his brain, when attached to an EEG machine, four or five seconds after beginning meditation (Wilber, *One Taste*, p. 75–76).
193. Nhat Hanh, *Old Path White Clouds*, p. 463.
194. Easwaran, *Upanishads*, Manukya, verse 2. p. 60.
195. Patañjali, *Yoga Sutras of Patanjali*, Book II, sutra 29, pp. 124-125.
196. Ibid., Satchidananda commentaries on I:34 and II:40, pp. 58 and 143.
197. http://www.anusara.com/index.php?option=com_content&view=article&id=68&Itemid=77.
198. Monier-Williams, *A Sanskrit-English Dictionary* pp. 41 and 1208.
199. <http://www.lotus.org/docs/yantra.htm>. The symbols in the lotus petals, clockwise from the top, are: Faiths Still Unknown, Hinduism, Judaism, Shinto, Taoism, Buddhism, Other Known Faiths, Christianity, Islam, Sikhism, Traditional African Faiths, Native American Faiths.
200. See Barry Long's *The Origin of Man and the Universe: The Myth that Came to Life*.
201. Elinor Kapp, the psychiatrist daughter of Reginald Kapp, mentioned in Chapter 8, first brought this etymology to my attention in her charming book, *Rigmaroles & Ragamuffins*, unpicking the multitude of words derived from textiles.
202. OED definition of *Tantra*.
203. Fischer-Schreiber, op. cit. article on *Tantra*, p. 354.
204. Bowker, *Oxford Dictionary of Religions*, article on *via negativa*, p. 1020.
205. Fox, *Coming of the Cosmic Christ*, p. 26.
206. Bowker, *Oxford Dictionary of Religions*, article on ‘affirmative way’, p. 23.
207. , *Consciousness Speaks*.
208. Weizenbaum, *Computer Power and Human Reason*, p. 259.
209. More, *Utopia*.
210. , *Consciousness Speaks*.
211. Brooks, *Mythical Man-Month*, pp. 42–44.
212. OED.
213. *The American Heritage Dictionary of the English Language, Fourth Edition*.
214. Revelations, 22:13.
215. Campbell, *Hero*, p. 36.
216. Ibid., pp. 36-37.

217. Ibid., pp. 193.
218. Ibid., pp. 196-197.
219. Ibid., p. 206-207.
220. Ibid., p. 207.
221. Ibid., p. 216.
222. Ibid., p. 217.
223. Ibid., p. 226.
224. Ibid., p. 229.
225. Ibid., p. 237.
226. Ibid., p. 239.
227. Teilhard, *Human Phenomenon*, p. 173.
228. Ibid., p. 174.
229. Tolle, *New Earth*, p. 138.
230. Ibid., p. 309.
231. http://en.wikipedia.org/wiki/Eckhart_Tolle#Inner_transformation.
232. <http://www.eckharttolle.com/>.
233. Marx wrote these words as Section XI of *Theses on Feuerbach*, written in 1845, but published as an appendix to *Ludwig Feuerbach and the End of Classical German Philosophy* in 1888. (<http://www.marxists.org/archive/marx/works/1845/theses/theses.htm>).
234. A bill for the United States National Health Care Act was introduced in the United States House of Representatives by Representative John Conyers (D-MI) in 2009 with 88 cosponsors as of 7th October that year. However, there was so much opposition to such a humanitarian approach to health care that in the event health-care reform was enacted as the Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act on 23rd and 30th March 2010, respectively. (http://en.wikipedia.org/wiki/Health_care_reform_in_the_United_States)
235. <http://www.youtube.com/watch?v=TOGLokZ1Bwc>.
236. Way, *Cloud of Unknowing*.
237. Storr, *Human Aggression*, p. 9.
238. Fromm, *The Anatomy of Human Destructiveness*, p. 45.
239. Robertson, *Future Work*, p. 126.
240. http://en.wikipedia.org/wiki/Fidei_defensor.
241. http://en.wikipedia.org/wiki/In_God_We_Trust.
242. http://en.wikipedia.org/wiki/The_Star-Spangled_Banner.
243. <http://www.whitehouse.gov/news/releases/2006/09/20060911-3.html>
244. <http://www.engineeringchallenges.org/cms/8996/9221.aspx>.
245. <http://news.bbc.co.uk/2/hi/americas/7248875.stm>.

246. <http://www.frontarena.com/>.
247. <http://www.sungard.com/sungard/>.
248. Maslow, 'The Jonah Syndrome', reproduced as the Jonah complex in Maslow, *Farther Reaches of Human Nature*, pp. 34-39.
249. Manuel, *Portrait of Isaac Newton*.
250. Manuel and Manuel, *Utopian Thought*, Harvard University Press, 1979.
251. Reflections on life by David Bly, representative in the US state of Minnesota, district 25B, <http://davidbly.com/archive/have-you-had-enough/>.
252. Maslow, 'The Jonah Syndrome', p. 61.
253. Ibid.
254. Easwaran, *Bhagavad Gita*, pp. 151 and 156.
255. Pagels, *Beyond Belief*, p. 56.
256. <http://www.guardian.co.uk/science/blog/2009/apr/09/religion-controversies-in-science>.
257. Maslow, 'The Jonah Syndrome', p. 62.
258. Grof and Grof, *Spiritual Emergency*.
259. Becker, *Denial of Death*, p. 49.
260. Maslow, 'The Jonah Syndrome', p. 63.
261. Ibid., pp. 61-62.
262. Tarnas, *Western Mind*, p. 395.
263. Meyer, *Gospel of Thomas*, p. 27.
264. Massignon, *Hallaj*.
265. Nukunu, *Words of Fire*, commentary on saying 84, in publication.
266. Happold, p. 72.
267. Koestler, *Act of Creation*, pp. 239-240.
268. This might seem like a most unlikely meeting between the most innovative scientist since Newton and a business technologist who had failed most of his exams at school and university, abandoning physics at eighteen because I could see that the philosophy of atomism was absurd, and of those exams I did pass, only doing so with the minimum grade permissible.

But James Hillman well explains how such a meeting could come about with his 'acorn theory' of human development, delineated in *The Soul's Code*. As he said, we are all given a unique soul before we are born, which Hillman calls an *acorn*, as a generic term for *image*, *character*, *fate*, *calling*, and *destiny*, corresponding to what the Romans called *genius* and the Greeks *daimon* (p. 10). But such a unique potential often cannot develop without a helping hand. Using George Berkeley's doctrine of *esse est percipi* 'to be is to be perceived', Hillman gave many examples of the way that the direction of people's lives had been changed because

a mentor could see into the depths of a person's soul and see what that person was destined to become one day (pp. 113-123). So it would seem that David Bohm could see something in me that most could not see, most probably because of our shared passion for Wholeness and the end of fragmentation.

- 269. Wilber, *Theory of Everything*, p. xii.
- 270. Skolimowski, *Let There Be Light*, p. 118.
- 271. Petersen, *Vision for 2012*, p. 6.
- 272. Petersen, interview with Carter Phipps, *EnlightenNext*, June-August 2009, Issue 44, p. 72.
- 273. Petersen, 'The End of the World As We Know It?', interview in *What Is Enlightenment?*, Issue 37, July-September 2007, p. 29.
- 274. <http://www.ic.org/>.
- 275. <http://gen.ecovillage.org/about-gen/aboutgen.html>.
- 276. Long, *Only Fear Dies*, p. 103.
- 277. Alexander, *2150 A.D.*, revised edition, p. 54.
- 278. Ibid., p. 53.
- 279. Lessing, *Mara and Dann*, p. 56.
- 280. <http://www.telegraph.co.uk/core/Content/displayPrintable.jhtml?xml=/news/2006/11/30/uhawking130.xml&site=5&page=0>.
- 281. <http://www.guardian.co.uk/commentisfree/2011/jul/08/relationship-only-ever-worked-one-way>.
- 282. Balsekar, *Ultimate Understanding*.
- 283. Academy of Absolute Understanding (<http://www.acadun.com/>) The discourses of Vijai Shankar are being published in a 60-volume series called *Kaivalya Gita*, Peter Julian Capper's preface to Volume 1 saying this: "Kaivalya means 'Absolute' and Gita means within this context 'an understanding'."
- 284. <http://www.paragonian.org/mission.shtml>.
- 285. Lewis, *Four Loves*, titles of chapters 3 to 6.
- 286. Ibid., pp. 39-44.
- 287. Aristotle, *Ethics*, p. 104 gives a table of twelve virtues and vices, at three levels: excess, mean, and deficiency. Books VIII and IX are dedicated to the subject of Friendship, with titles 'The Kinds of Friendship' and 'The Grounds of Friendship'.
- 288. Lewis, *Four Loves*, pp. 78-79.
- 289. Ibid., p. 83.
- 290. Ibid., p. 79.
- 291. Ibid., pp. 94-96.
- 292. Ibid., p. 82.

293. Ibid., p. 111.

294. Ibid., pp. 113-115.

295. Strong's *Concordance*, p. 1587.

296. Luke 6:27-28, 32-36. Table 3, p. 146 in Funk, *Five Gospels*, provides a mapping between the gospels of Matthew and Luke, clearly indicating what they have in common and where they deviate.

297. Ibid., p. 147.

298. http://www.vatican.va/holy_father/benedict_xvi/encyclicals/documents/hf_ben-xvi_enc_20051225_deus-caritas-est_en.html

299. *A Gift of Love: Deepak & Friends Present Music Inspired by the Love Poems of Rumi*, RSCD 3078, 1998.

300. Rumi, *Rumi*, tr. Liebert, p. 31.

301. <http://www.un.org/en/documents/udhr/index.shtml#a18>.

302. Osho, *Book of Secrets*, p. 141.

303. This became crystal clear at a one-day conference called 'Infinite Potential: The Legacy of David Bohm' in London on 21st November 2009, organized by the Scientific and Medical Network (<http://www.scimednet.org/infinite-potential-the-legacy-of-david-bohm-2/>). The subject of Wholeness was barely mentioned and that of fragmentation not at all, central issues in Bohm's life's work, the subject of the first chapter in *Wholeness*. A review of the conference is available at http://www.paragonian.org/pdf_files/articles/2009/reflections_on_the_legacy_of_david_bohm.pdf.

304. More met Pieter Gilles, the Town Clerk of Antwerp, in the summer of 1515, when participating in a trade commission to Flanders. (Introduction to More, *Utopia*, tr. Robinson, p. viii.)

305. OED entry on *dystopia*, quote from *The Listener*, 5th January 1967.

306. More, *Utopia*, tr. Robinson, p. viii.

307. Starnes, *New Republic*, p. 54, available at Google Books.

308. More, *Utopia*, tr. Robinson, p. 25.

309. Ibid., p. 135.

310. More, *Utopia*, tr. Turner, p. 154.

311. http://www.archive.org/stream/cu31924030364982/cu31924030364982_djvu.txt.

312. More, *Utopia*, tr. Robinson, p. 131. Modern translations of the sixteenth-century words are: *cleped* 'called', *herborough* 'lodging', *plat* 'plan, sketch', and *platted* 'sketched' (Ibid., pp. 133-134.)

313. Starnes, *New Republic*, p. 54.

314. <http://community.middlebury.edu/~harris/index.shtml>.

315. Kahn, *Heraclitus*, p. 28.

- 316. <http://community.middlebury.edu/~harris/Philosophy/heraclitus.pdf>.
- 317. Kahn, *Heraclitus*, pp. 30 and 104.
- 318. <http://community.middlebury.edu/~harris/Philosophy/heraclitus.pdf>.
- 319. Freeman, CHECK LIBRARY BOOKS.
- 320. Kahn, *Heraclitus*, p. 116.
- 321. <http://community.middlebury.edu/~harris/Philosophy/heraclitus.pdf>.

CHAPTER 13. THE AGE OF LIGHT

- Motto: Teilhard, *Human Phenomenon*, p. 163.
- Motto: Ibid., p. 174.
- Motto: Frederic Harrison, ‘Herbert Spencer Lecture’, 9th March 1905, University of Oxford (OED quotation for *telos*).
- 1. Teilhard, op. cit. p. 172.
 - 2. Ibid., p. 183.
 - 3. Ibid., p. 192.
 - 4. More, *Utopia*, p. 69.
 - 5. OED.
 - 6. Plato, *Timaeus and Critias*, 24e, p. 15.
 - 7. Ibid., 113b–114b, pp. 101–102.
 - 8. Grimal, *Dictionary of Classical Mythology*, ‘Atlas’, p. 68. Also http://en.wikipedia.org/wiki/Atlantic_ocean.
 - 9. Plato, op. cit. pp. xiii–xiv.
 - 10. Ibid., 25c–d, p. 16.
 - 11. Atlantis. *Encyclopædia Britannica 2008 Ultimate Reference Suite*.
 - 12. http://en.wikipedia.org/wiki/Location_hypotheses_of_Atlantis.
 - 13. Wilber, *Eye to Eye*, pp. 198–243.
 - 14. Wilber, *Up from Eden*, p. 12.
 - 15. Plato, op. cit. 110d, p. 99.
 - 16. More, *Utopia*, p. 84.
 - 17. Plato. op. cit. p. xiii.
 - 18. Teilhard, *Human Phenomenon*, p. 204.
 - 19. Cohen, *Freedom Has no History*, p. 103.
 - 20. Teilhard, op. cit. pp. 196–197.
 - 21. <http://www.merriam-webster.com/dictionary/Timocracy>.
 - 22. Plato, *Republic*, 545d, p. 359 passim.
 - 23. Aristotle, *Ethics*, Book 8, chapter 10, pp. 275–276.
 - 24. de Tocqueville, *Democracy in America*, pp. 250–253.

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25. Mill, *On Liberty*, p. 4.
26. Ibid., pp. 51–52.
27. Long, *Only Fear Dies*, pp. 87–88.
28. http://en.wikipedia.org/wiki/Gettysburg_Address.
29. <http://www.reaganlibrary.com/reagan/speeches/first.asp>.
30. OED.
31. OED.
32. Hofstadter, *Gödel, Escher, Bach*, p. 134.
33. Wilber, *Sex, Ecology, Spirituality*, p. 16.
34. Koestler, *Ghost in the Machine*, p. 48.
35. Ibid., p. 345.
36. Koestler, *Janus*, p. 34.
37. Wilber, op. cit. p. 21.
38. Plato, *Republic*, 473c–d, p. 263.
39. Ibid., 475b–e, pp. 268–269.
40. Ibid., 485e, p. 278.
41. http://en.wikipedia.org/wiki/New_Maths. It seems that this important initiative because numeracy was regarded as being more important than conceptual clarity.
42. Krishnamurti, *Education*, pp. 14–15.
43. Pagels, *Beyond Belief*, Saying 101, p. 240.

EPILOGUE: LIVING AT THE END TIMES

Motto:

- 1.
- 2.

GLOSSARY

1. Michael W. Stowell, 5th February 2001, <http://www.swans.com/library/art7/mws002.html>.
2. <http://absentofi.org/2005/10/biocracy/>.
3. The United States is described as a logocracy in Washington Irving's 1807 work, *Sal-magundi*. A visiting foreigner, 'Mustapha Rub-a-dub Keli Khan', ironically describes it as such, by which he means that via the tricky use of words, one can have power over others (<http://en.wikipedia.org/wiki/Logocracy>).
4. In an article called 'Ming the Mechanic', Flemming Funch defines holocracy as "the total system of whole things in nature, the original whole which is made up of the smaller

whole parts”, somewhat different from the Divine meaning of Wholeness. (http://ming.tv/flemming2.php/__show_article/_a000010-000066.htm)

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Cartoon: From the *New Yorker*, a cutout given to me by a friend in 1992.

1. Weizenbaum, ‘Computer Revolution’, p. 445.

