

# CORAL - THE NEXT TWIST OF FATE

World history is the greatest story ever told. It starts with the gods and ends here and now, with us. We all want to know what happens next. Looking back we see a rich tapestry of good and bad actors – Buddhists, Jews, Christians, Muslims, Communists, Nazis, and the heroes of Apollo. It is truly a tale of triumphs and tragedies.

Spiral dynamics is a color scheme for understanding history by tracing the evolution of complexity from humble origins. How we rose from surviving as naked apes to living as smart nodes in a globalized ecosystem is a story well worth telling in color. The tale has an amazing twist in the next chapter – the coral step in the spiral.



J. Andrew Ross is a writer and philosopher based in Germany. He blogs at [www.andyross.net](http://www.andyross.net)

Andy Ross thinks, and  
thinks for himself.

*Ted Honderich*

Front cover image: Juliabulb

HISTORY

ROVER

A ROVER BOOK

ISBN 978-148234223-9



# Notes

Most readers should skip these notes. They may be of use to historians, who can also go to my blog for more. Readers who just want the facts can easily find most of them online. We have tools in Google and Wikipedia that make writing a book like this an order of magnitude easier than it was a generation ago, and I have used them freely to speed up my work. Still, over the years I have read many more relevant books than I can cite here.

## Who, What, Why

Page 9. See the neo-atheist manifestos (Dawkins 2006, Dennett 2006, Harris 2004, Hitchens 2007). In support of Dennett, see (Boyer 2001). For the theist case, see (Armstrong 2009). On normal versus abnormal science, see (Kuhn 1962).

## Genesis

11. Many books gave me the background for our creation myth. I list a few in (Ross 2012). Decades ago I liked (Sagan 1980, Gribbin 1981). More recently I enjoyed (Bryson 2003, Greene 2004). On very early evolution, see (Ridley 2000, Woolfson 2000).
18. On spiral dynamics, see (Graves 2005, Küstenmacher 2010) and the relevant parts of (Wilber 2000).
19. For an old Jewish attempt to find the meaning of life, see (Berg 2003). For a new Christian attempt, see (Warren 2002).

## Gaia

21. For a heavy but intriguing review of the anthropic principle, see (Barrow 1986).
22. On our early ape heritage, see (Diamond 1991).
23. On the story of human civilization, see (Bronowski 1973).
25. On Ötzi the Iceman, see the entry in Wikipedia.
28. The story of Egypt here reflects multiple online sources.
29. The Einstein quote, translated, forms the title of (Pais 1982).
30. On psychophysics, see the relevant essays in (Ross 2009).  
On how the Answer came to be 42, see (Adams 1979).
34. On Gaia and global mind, see (Lovelock 1979, Bloom 2000).

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### Gods

35. On the axial age, see (Jaspers 1949). On a conjectured origin of consciousness, see (Jaynes 1976). On both, see (McGilchrist 2010).
36. On India and its religions, see (Wood 2007).
38. On the young Buddha, see (Hesse 1922, Rooks 1972).
40. On the emperor Ashoka, see (Sivan 2001).
41. On classical Greece and Rome, see (Hornblower 1998).  
On Greek science, see (Ronan 1983).
44. On Alexander the Great, see (Stone 2004).
46. On everyday life in ancient Rome, see (Heller 2006).
48. For a taste of stoic philosophy, see (Aurelius 2006).
50. On the ancient world of the Bible, see (Coogan 1998). On Moses, see (Freud 1937).
52. On Zoroaster or Zarathustra, see (Nietzsche 1887). On Nietzsche, see (Safranski 2000).

### Christians

55. On the canonical gospels, see (Sanders 1993, Ehrman 2009).
56. On New Testament scholarship, see (Schweitzer 1906), for which the full text of the translation by W. Montgomery is available online.
57. On Qumran, see (Golb 1995, Thiering 2006).
60. For the apocryphal gospels, see (Ehrman 2005).
64. For personal views of the mystic Jesus, see (Gibran 1928, Harvey 1998).  
On Jesus' possible travels in India, both before and after the crucifixion, see (Kersten 2001).
65. The Tibet story is related in (Notovitch 2004).
66. For an extremely traditional view of Jesus, see (Ratzinger 2007, 2011).
69. For the story of Bede Griffiths, see (Griffiths 1954, Boulay 1998).
72. Tolstoy's gospel is (Tolstoy 1896).
80. The Turin shroud story is well told in (Kersten 2001).
84. On the apostle Paul, see (Armstrong 1983, Sanders 1991).
86. For the acts of Thomas, see (Ehrman 2005).
87. For the story of Yuz Asaf, see (Kersten 2001).
89. On Caligula, see (Guccione 1979).

### Muslims

94. For translations of Augustine's words, see (Augustine 1963, 1972).
95. On Einstein and Gödel on time, see (Yourgrau 2005).
97. On Muhammad, see (Armstrong 2006).
99. For the "six pillars" and on Sufism, see (Shah 1968).

## NOTES

100. On the militant side of Islam, see (Armstrong 2000).
101. On Islamic science, see (Ronan 1983).
108. The El-Arabi verse is from (Shah 1968).
109. On the crusades and the wider picture, see (Lewis 2003). On Mongols, see (Bodrov 2007).
119. For an appreciation of Rumi's poetry, see (Harvey 1994).  
The Rumi verse is from (Shah 1968).

### Scientists

121. On the story of the rise of modern science from Galileo to Einstein, see (Boorstin 1983, Ronan 1983).
123. On Galileo's astronomy, see (Galilei 1610).
126. On the story from Copernicus to Newton, but especially on the roles of Brahe and Kepler, see (Koestler 1959).
127. On Luther, see (Till 2003). On Protestantism, see (Lilla 2007).
129. The source for Newton's cosmology is (Newton 1683).
132. The Feynman quote is from (Feynman 1963).
133. On Darwin, see (Darwin 1859, Attenborough 2009). For an "update" of his book, see (Jones 1999).
136. Darwin's ideas are well glossed in (Dennett 1995).
139. On Otto, Diesel, and other German scientists and engineers, see (Watson 2010).
142. On entropy and information, see (Baeyer 2003, Lloyd 2005).
143. The Feynman quote is from (Feynman 1963).
145. On the role of disease in the colonization of America, see (Diamond 1997).
146. For a wide view of the expansion of European civilization, see (Kennedy 1988). On the founding of the United States of America, see (Ferguson 2004).

### Communists

147. On the glories of the British Empire, see (Ferguson 2003).
148. On Marx the man, see (When 1999). Engels' classic report is (Engels 1845).
149. Kant's classic is (Kant 1781). On Kant, see (Scruton 2001). Hegel's classic is (Hegel 1807). On Hegel, see (Taylor 1977).
151. For Marxist economic theory, see (Marx 1867).
154. On the Potemkin mutiny, see (Eisenstein 1925).
155. Lenin's atrocious book on materialism is (Lenin 1909).
157. The Reed quotes are from (Reed 1919). On Reed's coverage of the revolution, see (Beatty 1981).

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160. The Russell quote is from (Russell 1920). On the Great War, see (Keegan 1998).
161. On the Second Reich, see (Mann 1958).
165. On the British role in the Arab revolt, see (Lawrence 1926, Lean 1962).
168. The Churchill quotation from (Churchill 1948).

## Holocaust

169. On Hitler's war, see (Ferguson 2006, Burleigh 2010). On Churchill as warlord, see (Deighton 1993, 2010; Corrigan 2006; D'Este 2009).
170. On Hitler's life, see (Haffner 1978, Fest 1987, Kershaw 2008).
171. The Heck quote is from (Heck 1985).
172. The original Spengler book is (Spengler 1918).
173. The manifesto Hitler dictated is (Hitler 1923).
174. On Churchill's life, there are so many sources it seems random to give only a few, but see (Manchester 1983, Jenkins 2001, Hastings 2009).
178. The translations of Heidegger's words are from Wikipedia.  
On Heidegger and his philosophy, see (Heidegger 1993, Safranski 1994).
179. On life in the Third Reich, see (Burleigh 2000).
183. This and other Churchill quotes are from (Churchill 2004).
184. On the Battle of Britain, see (Holland 2010).
185. On the personal friendship between Winston and Franklin, see (Meacham 2003).
189. On Turing, see (Hodges 1983). On Enigma, see (Bauer 2000).
194. On the Allied bombing campaign, see (Grayling 2006). On the Lancaster, see (Iveson 2009).
198. On Operation Valkyrie, see (Singer 2008).
201. A badly outdated history of the bombing of Dresden is (Irving 1963).  
The Churchill quote is from the UK National Archives, accessed via Google. On Auschwitz, see (Rees 2005).
202. On the Holocaust (Shoah), see (Gilbert 1986, Spielberg 1993).
204. On the last days in the bunker, see (Hirschbiegel 2004).
205. Churchill's classic history of the war is (Churchill 1948).  
On its composition, see (Reynolds 2004).
206. For Nietzsche's ideas, see (Nietzsche 1887). For Darwin's ideas, see (Darwin 1859).
207. A bold attempt to reconstruct Hitler's view of the war is (Irving 1977).  
A good Judeo-centric view of history is (Dimont 2004). For a lighter view of Jews, read (Goldstein 2010).
210. Feynman's role at Los Alamos is well covered in (Gleick 1992). The Oppenheimer story is told in the context of physics in (Pais 1986).

## NOTES

### Globorg

213. On Gandhi, see (Duncan 1971, Attenborough 1982).
217. The Einstein quote is translated from a letter now archived at the Hebrew University of Jerusalem (and accessible online).
219. The Teller-Ulam design for an H-bomb appears in Wikipedia.
220. On the Vietnam war, see (Coppola 1979, Sheehan 1989).
224. On Apollo, see (Chaikin 1994; Howard 1995, 1998).
230. Numerous mutually reinforcing online sources together provide the story of the development of information technology.
233. On the physics of the big, the small, and the complex, see (Davies 1989). On the history of work at the LHC, see (Close 1987).
234. The Feynman quote is from (Feynman 1985). For a magisterial review of deep physical theory, see (Penrose 2004).
236. The story of globalization and technology is from (Ross 2010).
240. On life, see (Schrödinger 1944). On DNA, see (Watson 1968).
241. On genes, see (Dawkins 1976, 1982).
244. On the interdependence of all life, see (Wilson 1992).
246. By and on Descartes, see (Descartes 1637, Williams 1978). For a personal view of the wider history of philosophy, see (Russell 1946). On Kant, see (Kant 1781, Scruton 2001).
247. On Frege's philosophy of logic and language, see (Dummett 1973). The mathematical classic by Russell and Whitehead is (Russell 1910).
248. On Gödel's theorem(s), see (Hofstadter 1979, Goldstein 2005).
249. On mind and self-reference, see (Hofstadter 1981, 2007). On Turing and Turing machines, see (Hodges 1983, Penrose 1989). The classic of psychology is (James 1890). See also (Pinker 1997).
250. Dennett's book is (Dennett 1991).
251. The literature on consciousness is vast, but try starting with (McGinn 1999; Chalmers 2002, 2010).
251. On avatars within the mind, see (Metzinger 2009, Ross 2010). On the hard problem of consciousness, see (Chalmers 1996).

### Revelation

255. On Iran, see (Baer 2008).
257. On Arab activist psychology, see (Atran 2010).
258. On China, see (Clayre 1984, Bertolucci 1987).
259. For a scientific biography of Einstein, see (Pais 1982).
260. On time, see (Barbour 1999, Lockwood 2005, Carroll 2010).
262. On gravity and spacetime, see (Wheeler 1999). On how to know God, see (Chopra 2000).

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263. The ego bubble idea was inspired in part by the string of beads image for worlds of consciousness in (James 1902); see (Ross 2009).  
On the glass bead game, see (Hesse 1943).
264. On Wittgenstein, see (Monk 1990).
265. Weininger's book is (Weininger 1903). Frege's great masterpiece is (Frege 1893, 1903). Russell's book is (Russell 1903).
267. Tolstoy's personal gloss on the gospel story is (Tolstoy 1896).  
Dostoyevsky's novel is (Dostoyevsky 1880). Wittgenstein's first book and doctoral thesis is (Wittgenstein 1922).
- 269 Malcolm is quoted in (Monk 1990).
270. The first Kripke quote is from (Kripke 1982). The second is from (Kripke 2006).
271. Wallace's *Bildungsroman* is (Wallace 1987). On Wallace on Markson's novel, see the introduction to (Wallace 2010). Wallace's review of the novel is in (Wallace 2012).
272. Wallace's book on mathematical logic is (Wallace 2003). The quoted review is (Rucker 2004); Rucker's book on the topic is (Rucker 1982).  
For Wilber's ideas, see (Wilber 2000) and check his online presence.
273. Works by the three named mystics include (Chopra 2000, Harvey 1998, Tolle 1999). The Harris book is (Harris 2004).
274. On scientific methodology, see (Popper 1963).
275. On academic bullshit, see (Frankfurt 2005).
277. Borg drones are fictional beings from the future world of Star Trek.
280. On futurology, see (Kurzweil 2005).

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One could add a lot more scholarly detail or commentary. If the response to this book is big enough, I may post further notes online, at:

[www.andyross.net/coral\\_notes.htm](http://www.andyross.net/coral_notes.htm)

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