

Quotes by Famous Evolutionists

Lack of Identifiable Phylogeny

"It is, however, very difficult to establish the precise lines of descent, termed **phylogenies**, for most organisms." (Ayala, F. J. and Valentine J. W., *Evolving: The Theory and Process of Organic Evolution*, 1978, p. 230)

"Undeniably, the fossil record has provided disappointingly few gradual series. The origins of many groups are still **not documented at all.**" (Futuyma, D., *Science on Trial: The Case for Evolution*, 1983, p. 190-191)

"There is still a tremendous problem with the sudden diversification of **multi-cellular life**. There is no question about that. That's a real phenomenon." (Niles Eldredge, quoted in *Darwin's Enigma: Fossils and Other Problems* by Luther D. Sunderland, Master Book Publishers, Santee, California, 1988, p. 45)

"Whatever ideas authorities may have on the subject, the lungfishes, like every other major group of fishes that I know, have their **origins firmly based in nothing.**" (Quoted in W. R. Bird, *The Origin of Species Revisited* [Nashville: Regency, 1991; originally published by Philosophical Library, 1987], 1:62-63)

"The main problem with such **phyletic gradualism** is that the fossil record provides so little evidence for it. Very rarely can we trace the gradual transformation of one entire species into another through a finely graded sequence of intermediary forms." (Gould, S.J. Luria, S.E. & Singer, S., *A View of Life*, 1981, p. 641)

"It should come as no surprise that it would be extremely difficult to find a specific fossil species that is both intermediate in **morphology** between

two other taxa and is also in the appropriate stratigraphic position." (Cracraft, J., "Systematics, Comparative Biology, and the Case Against Creationism," 1983, p. 180)

"Most families, orders, classes, and phyla appear rather suddenly in the fossil record, often without anatomically intermediate forms smoothly interlinking evolutionarily derived descendant taxa with their presumed ancestors." (Eldredge, N., 1989, *Macro-Evolutionary Dynamics: Species, Niches, and Adaptive Peaks*, McGraw-Hill Publishing Company, New York, p. 22)

"Species that were once thought to have turned into others have been found to overlap in time with these alleged descendants. In fact, the fossil record does not convincingly document a single transition from one species to another." (Stanley, S.M., *The New Evolutionary Timetable: Fossils, Genes, and the Origin of Species*, 1981, p. 95)

"Many fossils have been collected since 1859, tons of them, yet the impact they have had on our understanding of the relationships between living organisms is barely perceptible. ...In fact, I do not think it unfair to say that fossils, or at least the traditional interpretation of fossils, have clouded rather than clarified our attempts to reconstruct phylogeny." (Fortey, P. L., "Neontological Analysis Versus Palaeontological Stores," 1982, p. 120-121)

"Indeed, it is the chief frustration of the fossil record that we do not have empirical evidence for sustained trends in the evolution of most complex morphological adaptations." (Gould, Stephen J. and Eldredge, Niles, "Species Selection: Its Range and Power," 1988, p. 19)

"The paleontological data is consistent with the view that all of the currently recognized phyla had evolved by about 525 million years ago. Despite half a billion years of evolutionary exploration generated in Cambrian time, no new phylum level designs have appeared since then." ("Developmental Evolution of Metazoan Body plans: The Fossil

Evidence," Valentine, Erwin, and Jablonski, *Developmental Biology* 173, Article No. 0033, 1996, p. 376)

"Many 'trends' singled out by evolutionary biologists are ex post facto rendering of phylogenetic history: biologists may simply pick out species at different points in geological time that seem to fit on some line of directional modification through time. Many trends, in other words, may **exist more in the minds** of the analysts than in phylogenetic history. This is particularly so in situations, especially common prior to about 1970, in which analysis of the phylogenetic relationships among species was incompletely or poorly done." (Eldredge, Niles, *Macro-Evolutionary Dynamics: Species, Niches, and Adaptive Peaks*, 1989, p. 134)

"The Eldredge-Gould concept of **punctuated equilibria** has gained wide acceptance among paleontologists. It attempts to account for the following paradox: Within continuously sampled lineages, one rarely finds the gradual morphological trends predicted by Darwinian evolution; rather, change occurs with the sudden appearance of new, well-differentiated species. Eldredge and Gould equate such appearances with speciation, although the details of these events are not preserved. ...The punctuated equilibrium model has been widely accepted, not because it has a compelling theoretical basis but because it appears to **resolve a dilemma**. Apart from the obvious sampling problems inherent to the observations that stimulated the model, and apart from its intrinsic circularity (one could argue that speciation can occur only when phyletic change is rapid, not vice versa), the model is more ad hoc explanation than theory, and it rests on shaky ground." (Ricklefs, Robert E., "Paleontologists Confronting Macroevolution," *Science*, vol. 199, 1978, p. 59)

"Few paleontologists have, I think ever supposed that fossils, by themselves, provide grounds for the conclusion that evolution has occurred. An examination of the work of those paleontologists who have been particularly concerned with the relationship between paleontology and evolutionary theory, for example that of G. G. Simpson and S. J.

Gould, reveals a mindfulness of the fact that the record of evolution, like any other historical record, must be construed within a complex of particular and **general preconceptions** not the least of which is the hypothesis that evolution has occurred. ...The fossil record doesn't even provide any evidence in support of Darwinian theory except in the weak sense that the fossil record is compatible with it, just as it is compatible with other evolutionary theories, and revolutionary theories and special creationist theories and even historical theories." (Kitts, David B., "Search for the Holy Transformation," review of *Evolution of Living Organisms*, by Pierre-P. Grassé, *Paleobiology*, vol. 5, 1979, p. 353-354)

Stasis and Sudden Appearance

"Paleontologists have paid an enormous price for Darwin's argument. We fancy ourselves as the only true students of life's history, yet to preserve our favored account of evolution by natural selection we view our data as so bad that we almost never see the very process we profess to study. ...The history of most fossil species includes two features particularly inconsistent with gradualism: **1. Stasis.** Most species exhibit no directional change during their tenure on earth. They appear in the fossil record looking much the same as when they disappear; morphological change is usually limited and directionless. **2. Sudden appearance.** In any local area, a species does not arise gradually by the steady transformation of its ancestors; it appears all at once and 'fully formed.'" (Gould, Stephen J. *The Panda's Thumb*, 1980, p. 181-182)

"Paleontologists are traditionally famous (or infamous) for reconstructing whole animals from the debris of death. Mostly they cheat. ...If any event in life's history resembles man's creation myths, it is this **sudden diversification** of marine life when multicellular organisms took over as the dominant actors in ecology and evolution. Baffling (and embarrassing) to Darwin, this event still dazzles us and stands as a major biological revolution on a par with the invention of **self-replication** and the origin of the **eukaryotic cell**. The animal phyla emerged out of the Precambrian

mists with most of the attributes of their modern descendants."
(Bengtson, Stefan, "The Solution to a Jigsaw Puzzle," *Nature*, vol. 345
(June 28, 1990), p. 765-766)

"Modern multicellular animals make their first uncontested appearance in the fossil record some 570 million years ago - and with a bang, not a protracted crescendo. This '**Cambrian explosion**' marks the advent (at least into direct evidence) of virtually all major groups of modern animals - and all within the minuscule span, geologically speaking, of a few million years." (Gould, Stephen J., *Wonderful Life: The Burgess Shale and the Nature of History*, 1989, p. 23-24)

"The fossil record had caused Darwin more grief than joy. Nothing distressed him more than the Cambrian explosion, the coincident appearance of almost all **complex organic designs...**" (Gould, Stephen J., *The Panda's Thumb*, 1980, p. 238-239)

"The majority of major groups appear suddenly in the rocks, with **virtually no evidence** of transition from their ancestors." (Futuyma, D., *Science on Trial: The Case for Evolution*, 1983, p. 82)

"**Most families, orders, classes, and phyla** appear rather suddenly in the fossil record, often without anatomically intermediate forms smoothly interlinking evolutionarily derived descendant taxa with their presumed ancestors." (Eldredge, (Eldredge, Niles, *Macro-Evolutionary Dynamics: Species, Niches, and Adaptive Peaks*, 1989, p. 22)

"In spite of these examples, it remains true, as every paleontologist knows, that most new species, genera, and families, and that nearly all new categories above the level of families, appear in the record suddenly and are not led up to by known, gradual, completely continuous transitional sequences." (Simpson, George Gaylord, *The Major Features of Evolution*, 1953, p. 360)

"The gaps in the record are real, however. The absence of any record of

any important branching is quite phenomenal. Species are usually static, or nearly so, for long periods, species seldom and **genera never show evolution** into new species or genera but replacement or one by another, and change is more or less abrupt." (Wesson, R., *Beyond Natural Selection*, 1991, p. 45)

"All through the fossil record, groups - both large and small - **abruptly appear and disappear**. ...The earliest phase of rapid change usually is undiscovered, and must be inferred by comparison with its probable relatives." (Newell, N. D., *Creation and Evolution: Myth or Reality*, 1984, p. 10)

"Paleontologists had long been aware of a **seeming contradiction** between Darwin's postulate of gradualism...and the actual findings of paleontology. Following phyletic lines through time seemed to reveal only minimal gradual changes but no clear evidence for any change of a species into a different genus or for the gradual origin of an evolutionary novelty. Anything truly novel always seemed to appear quite abruptly in the fossil record." (Mayr, E., *Our Long Argument: Charles Darwin and the Genesis of Modern Evolutionary Thought*, 1991, p. 138)

"The record certainly did not reveal gradual transformations of structure in the course of time. On the contrary, it showed that species generally remained constant throughout their history and were replaced quite suddenly by significantly different forms. New types or classes seemed to **appear fully formed**, with no sign of an evolutionary trend by which they could have emerged from an earlier type." (Bowler, *Evolution: The History of an Idea*, 1984, p. 187)

"Instead of finding the gradual unfolding of life, what geologists of Darwin's time, and geologists of the present day actually find is a highly uneven or jerky record; that is, species appear in the sequence very suddenly, show little or no change during their existence in the record, then abruptly go out of the record. and it is not always clear, in fact it's rarely clear, that the descendants were actually better adapted than their

predecessors. In other words, **biological improvement is hard to find.**" (Raup, David M., "Conflicts Between Darwin and Paleontology," Bulletin, Field Museum of Natural History, vol. 50, 1979, p. 23)

"A major problem in proving the theory (of evolution) has been the fossil record; the imprints of vanished species preserved in the Earth's geological formations. This record has **never revealed** traces of Darwin's hypothetical intermediate variants instead species appear and disappear abruptly, and this anomaly has fueled the creationist argument that each species was created by God." (Czarnecki, Mark, "The Revival of the Creationist Crusade", MacLean's, January 19, 1981, p. 56)

"Eldredge and Gould, by contrast, decided to take the record at face value. On this view, there is **little evidence** of modification within species, or of forms intermediate between species because neither generally occurred. A species forms and **evolves almost instantaneously** (on the geological timescale) and then remains virtually unchanged until it disappears, yielding its habitat to a new species." (Smith, Peter J., "Evolution's Most Worrisome Questions," Review of Life Pulse by Niles Eldredge, New Scientist, 1987, p. 59)

"The principle problem is morphological stasis. A theory is only as good as its predictions, and conventional neo-Darwinism, which claims to be a comprehensive explanation of evolutionary process, has failed to predict the **widespread long-term morphological stasis** now recognized as one of the most striking aspects of the fossil record." (Williamson, Peter G., "Morphological Stasis and Developmental Constraint: Real Problems for Neo-Darwinism," Nature, Vol. 294, 19 November 1981, p. 214)

"It is a simple ineluctable truth that virtually all members of a biota remain basically stable, with minor fluctuations, throughout their duration..." (Eldredge, Niles, *The Pattern of Evolution*, 1998, p. 157)

"But fossil species remain unchanged throughout most of their history and the record **fails to contain a single example** of a significant

transition." (Woodroff, D.S., Science, vol. 208, 1980, p. 716)

"We have long known about **stasis and abrupt appearance**, but have chosen to fob it off upon an imperfect fossil record." (Gould, Stephen J., "The Paradox of the First Tier: An Agenda for Paleobiology," Paleobiology, 1985, p. 7)

"Paleontologists ever since Darwin have been searching (largely in vain) for the sequences of insensibly graded series of fossils that would stand as examples of the sort of wholesale transformation of species that Darwin envisioned as the natural product of the evolutionary process. Few saw any reason to demur - though it is a startling fact that ...most species **remain recognizably themselves**, virtually unchanged throughout their occurrence in geological sediments of various ages." (Eldredge, Niles, "Progress in Evolution?" New Scientist, vol. 110, 1986, p. 55)

"In other words, when the assumed evolutionary processes did not match the pattern of fossils that they were supposed to have generated, the pattern was judged to be 'wrong.' A **circular argument** arises: interpret the fossil record in terms of a particular theory of evolution, inspect the interpretation, and note that it confirms the theory. Well, it would, wouldn't it? ...As is now well known, most fossil species appear instantaneously in the record, persist for some millions of years virtually unchanged, only to disappear abruptly - the 'punctuated equilibrium' pattern of Eldredge and Gould." (Kemp, Tom S., "A Fresh Look at the Fossil Record," New Scientist, vol. 108, 1985, p. 66-67)

"The old Darwinian view of evolution as a ladder of more and more efficient forms leading up to the present is **not borne out by the evidence**. Most changes are random rather than systematic modifications, until species drop out. There is no sign of directed order here. Trends do occur in many lines, but they are not the rule." (Newell, N. D., "Systematics and Evolution," 1984, p. 10)

"Well-represented species are usually stable throughout their temporal

range, or alter so little and in such **superficial** ways (usually in size alone), that an extrapolation of observed change into longer periods of geological time could not possibly yield the extensive modifications that mark general pathways of evolution in larger groups. Most of the time, when the evidence is best, nothing much happens to most species." (Gould Stephen J., "Ten Thousand Acts of Kindness," *Natural History*, 1988, p. 14)

"Stasis, or nonchange, of most fossil species during their lengthy geological lifespans was tacitly acknowledged by all paleontologists, but almost never studied explicitly because prevailing theory treated stasis as uninteresting nonevidence for nonevolution. ...The **overwhelming prevalence of stasis** became an embarrassing feature of the fossil record, best left ignored as a manifestation of nothing (that is, nonevolution). (Gould, Stephen J., "Cordelia's Dilemma," *Natural History*, 1993, p. 15)

"Paleontologists just were not seeing the expected changes in their fossils as they pursued them up through the rock record. ...That individual kinds of fossils remain recognizably the same throughout the length of their occurrence in the fossil record had been known to paleontologists long before Darwin published his Origin. Darwin himself, ...prophesied that future generations of paleontologists would fill in these gaps by diligent search ...One hundred and twenty years of paleontological research later, it has become abundantly clear that the fossil record will not confirm this part of Darwin's predictions. Nor is the problem a miserably poor record. The fossil record simply shows that this **prediction is wrong**. ...The observation that species are **amazingly conservative and static** entities throughout long periods of time has all the qualities of the emperor's new clothes: everyone knew it but preferred to ignore it. Paleontologists, faced with a recalcitrant record obstinately refusing to yield Darwin's predicted pattern, simply looked the other way." (Eldredge, N. and Tattersall, I., *The Myths of Human Evolution*, 1982, p. 45-46)

Large Gaps

"We have so many gaps in the evolutionary history of life, gaps in such key areas as the origin of the multi-cellular organisms, the **origin of the vertebrates**, not to mention the origins of most invertebrate groups."

(McGowan, C., *In the Beginning... A Scientist Shows Why the Creationists are Wrong*, Prometheus Books, 1984, p. 95)

"There are all sorts of gaps: absence of gradationally intermediate 'transitional' forms between species, but also between larger groups - between, say, families of carnivores, or the **orders of mammals**. In fact, the higher up the Linnaean hierarchy you look, the fewer transitional forms there seem to be." (Eldredge, Niles, *The Monkey Business: A Scientist Looks at Creationism*, 1982, p. 65)

"It is as though they [fossils] were just planted there, without any evolutionary history. Needless to say this appearance of sudden planting has delighted creationists. ...Both schools of thought (Punctuacionists and Gradualists) despise so-called scientific creationists equally, and both agree that the major gaps are real, that they are true imperfections in the fossil record. The **only alternative explanation** of the sudden appearance of so many complex animal types in the Cambrian era is divine creation and (we) both reject this alternative." (Dawkins, Richard, *The Blind Watchmaker*, W.W. Norton & Company, New York, 1996, p. 229-230)

"All paleontologists know that the fossil record contains precious little in the way of intermediate forms; transitions between major groups are **characteristically abrupt**. Gradualists usually extract themselves from this dilemma by invoking the extreme imperfection of the fossil record." (Gould, Stephen J., *The Panda's Thumb*, 1980, p. 189)

"One of the most surprising negative results of paleontological research in the last century is that such transitional forms seem to be **inordinately scarce**. In Darwin's time this could perhaps be ascribed with some justification to the incompleteness of the paleontological record and to

lack of knowledge, but with the enormous number of fossil species which have been discovered since then, other causes must be found for the **almost complete absence** of transitional forms." (Brouwer, A., "General Paleontology," [1959], Transl. Kaye R.H., Oliver & Boyd: Edinburgh & London, 1967, p. 162-163)

"There is no need to apologize any longer for the poverty of the fossil record. In some ways it has become almost **unmanageably rich**, and discovery is out-pacing integration. The fossil record nevertheless continues to be composed mainly of gaps." (Neville, George, T., "Fossils in Evolutionary Perspective," *Science Progress*, vol. 48 January 1960, p. 1-3)

"The record jumps, and all the evidence shows that the record is real: the gaps we see reflect real events in life's history not the artifact of a poor fossil record...The fossil record flatly **fails to substantiate** this expectation of finely graded change." (Eldredge, N. and Tattersall, I., *The Myths of Human Evolution* Columbia University Press, 1982, p. 59, 163)

"**Gaps between families** and taxa of even higher rank could not be so easily explained as the mere artifacts of a poor fossil record." (Eldredge, Niles, *Macro-Evolutionary Dynamics: Species, Niches, and Adaptive Peaks*, 1989, p. 22)

"The fossil record is much less incomplete than is generally accepted." (Paul, C.R.C., "The Adequacy of the Fossil Record," 1982, p. 75)

"Links are missing just where we most fervently desire them, and it is all too probable that many 'links' will continue to be missing." (Jepsen, L. Glenn; Mayr, Ernst; Simpson George Gaylord. *Genetics, Paleontology, and Evolution*, New York, Athenaeum, 1963, p. 114)

"For over a hundred years paleontologists have recognized the large number of gaps in the fossil record. Creationists make it seem like gaps

are a deep, dark secret of paleontology..." (Cracraft, in Awbrey & Thwaites, *Evolutionists Confront Creationists*, 1984)

"In any case, no real evolutionist, whether gradualist or punctuationist, uses the fossil record as evidence in favour of the theory of evolution as opposed to special creation." (Ridley, Mark, "Who doubts evolution?" *New Scientist*, vol. 90, 25 June 1981, p. 831)

"The absence of fossil evidence for intermediary stages between major transitions in organic design, indeed our inability, even in our imagination, to construct functional intermediates in many cases, has been a persistent and nagging problem for gradualist accounts of evolution." (Gould, Stephen J., 'Is a new and general theory of evolution emerging?' *Paleobiology*, vol 6(1), January 1980, p. 127)

"The curious thing is that there is a consistency about the fossil gaps; the fossils are missing in all the important places." (Hitching, Francis, *The Neck of the Giraffe or Where Darwin Went Wrong*, Penguin Books, 1982, p.19)

"If life had evolved into its wondrous profusion of creatures little by little, Dr. Eldredge argues, then one would expect to find fossils of transitional creatures which were a bit like what went before them and a bit like what came after. But no one has yet found any evidence of such transitional creatures. This oddity has been attributed to gaps in the fossil record which gradualists expected to fill when rock strata of the proper age had been found. In the last decade, however, geologists have found rock layers of all divisions of the last 500 million years and **no transitional forms** were contained in them." (*The Guardian Weekly*, 26 Nov 1978, vol 119, no 22, p. 1)

"Given that evolution, according to Darwin, was in a continual state of motion...it followed logically that the fossil record should be rife with examples of transitional forms leading from the less to more evolved. ...Instead of filling the gaps in the fossil record with so-called missing

links, most paleontologists found themselves facing a situation in which there were only gaps in the fossil record, with **no evidence of transformational intermediates** between documented fossil species." (Schwartz, Jeffrey H., *Sudden Origins*, 1999, p. 89)

"Despite the bright promise that paleontology provides a means of "seeing" evolution, it has presented some nasty difficulties for evolutionists the most notorious of which is the presence of "gaps" in the fossil record. Evolution requires intermediate forms between species and **paleontology does not provide them**. The gaps must therefore be a contingent feature of the record." (Kitts, David B., "Paleontology and Evolutionary Theory," *Evolution*, vol. 28, 1974, p. 467)

"A persistent problem in evolutionary biology has been the absence of intermediate forms in the fossil record. Long term gradual transformations of single lineages are rare and generally involve simple size increase or **trivial phenotypic effects**. Typically, the record consists of successive ancestor-descendant lineages, **morphologically invariant** through time and unconnected by intermediates." (Williamson, P.G., *Palaeontological Documentation of Speciation in Cenozoic Molluscs from Turkana Basin*, 1982, p. 163)

Miscellaneous

"All of us who study the origin of life find that the more we look into it, the more we feel that it is too complex to have evolved anywhere. We believe as an **article of faith** that life evolved from dead matter on this planet. It is just that its complexity is so great, it is hard for us to imagine that it did." (Urey, Harold C., quoted in *Christian Science Monitor*, January 4, 1962, p. 4)

"If living matter is not, then, caused by the interplay of atoms, natural forces and radiation, how has it come into being? I think, however, that we must go further than this and admit that the only acceptable explanation is creation. I know that this is **anathema to physicists**, as

indeed it is to me, but we must not reject a theory that we do not like if the experimental evidence supports it." (H.J. Lipson, F.R.S. Professor of Physics, University of Manchester, UK, "A physicist looks at evolution" Physics Bulletin, 1980, vol 31, p. 138)

"To the unprejudiced, the fossil record of plants is in favor of special creation. Can you imagine how an orchid, a duck weed, and a palm have come from the same ancestry, and have we any evidence for this assumption? The evolutionist must be prepared with an answer, but I think that most would break down before an inquisition." (E.J.H. Corner "Evolution" in A.M. MacLeod and L.S. Cobley, eds., Evolution in Contemporary Botanical Thought, Chicago, IL: Quadrangle Books, 1961, at 95, 97 from Bird, I, p. 234)

"The more one studies paleontology, the more certain one becomes that evolution is based on faith alone; exactly the same sort of faith which it is necessary to have when one encounters the great mysteries of religion." (More, Louis T., "The Dogma of Evolution," Princeton University Press: Princeton NJ, 1925, Second Printing, p.160)

"At the present stage of geological research, we have to admit that there is nothing in the geological records that runs contrary to the view of conservative creationists, that God created each species separately, presumably from the dust of the earth." (Dr. Edmund J. Ambrose, The Nature and Origin of the Biological World, John Wiley & Sons, 1982, p. 164)

"One of its (evolutions) weak points is that it does not have any recognizable way in which conscious life could have emerged." (Sir John Eccles, "A Divine Design: Some Questions on Origins" in Margenau and Varghese (eds.), Cosmos, Bios, Theos, p. 203)

"I am convinced, moreover, that Darwinism, in whatever form, is not in fact a scientific theory, but a pseudo-metaphysical hypothesis decked out

in scientific garb. In reality the theory derives its support not from empirical data or logical deductions of a scientific kind but from the circumstance that it happens to be the only doctrine of biological origins that can be conceived with the constricted worldview to which a majority of scientists no doubt subscribe." (Wolfgang, Smith, "The Universe is Ultimately to be Explained in Terms of a Metacosmic Reality" in Margenau and Varghese (eds.), Cosmos, Bios, Theos, p. 113)

"The origin of life is still a mystery. As long as it has not been demonstrated by experimental realization, I cannot conceive of any physical or chemical condition [allowing evolution]...I cannot be satisfied by the idea that fortuitous mutation...can explain the complex and rational organization of the brain, but also of lungs, heart, kidneys, and even joints and muscles. How is it possible to escape the idea of some intelligent and organizing force?" (d'Aubigne, Merle, "How Is It Possible to Escape the Idea of Some Intelligent and Organizing Force?" in Margenau and Varghese (eds.), Cosmos, Bios, Theos, p. 158)

"Life, even in bacteria, is too complex to have occurred by chance." (Rubin, Harry, "Life, Even in Bacteria, Is Too Complex to Have Occurred by Chance" in Margenau and Varghese (eds.), Cosmos, Bios, Theos, p. 203)

"The third assumption was the Viruses, Bacteria, Protozoa and the higher animals were all interrelated...We have as yet no definite evidence about the way in which the Viruses, Bacteria or Protozoa are interrelated." (Kerkut, G.A., Implications of Evolution, Pergammon Press, 1960, p. 151)

"Scientists have no proof that life was not the result of an act of creation, but they are driven by the nature of their profession to seek explanations for the origin of life that lie within the boundaries of natural law. They ask themselves, "How did life arise out of inanimate matter? And what is the probability of that happening?" And to their chagrin they have no clear-cut answer, because chemists have never succeeded in reproducing nature's experiments on the creation of life out of nonliving matter. Scientists do

not know how that happened, and furthermore, they do not know the chance of its happening. Perhaps the chance is very small, and the appearance of life on a planet is an event of miraculously low probability. Perhaps life on the earth is unique in this Universe. **No scientific evidence** precludes that possibility." (Jastrow, Robert, *The Enchanted Loom: Mind In the Universe*, 1981, p. 19)

"...we have proffered a collective tacit acceptance of the story of gradual adaptive change, a story that strengthened and became even more entrenched as the synthesis took hold. We paleontologists have said that the history of life supports that interpretation, all the while really knowing that it does not." (Eldredge, Niles "Time Frames: The Rethinking of Darwinian Evolution and the Theory of Punctuated Equilibria," Simon & Schuster: New York NY, 1985, p. 44)

"With the benefit of hindsight, it is amazing that paleontologists could have accepted gradual evolution as a universal pattern on the basis of a handful of supposedly well-documented lineages (e.g. Gryphaea, Micraster, Zaphrentis) none of which actually withstands close scrutiny." (Paul, C. R. C., 1989, "Patterns of Evolution and Extinction in Invertebrates", Allen, K. C. and Briggs, D. E. G. (editors), *Evolution and the Fossil Record*, Smithsonian Institution Press, Washington, D. C., 1989, p. 105)

"The rapid development as far as we can judge of all the higher plants within recent geological times is an **abominable mystery**." (Darwin, Charles R., letter to J.D. Hooker, July 22nd 1879, in Darwin F. & Seward A.C., eds., "More Letters of Charles Darwin: A Record of His Work in a Series of Hitherto Unpublished Papers," John Murray: London, 1903, Vol. II, p. 20-21)

"An honest man, armed with all the knowledge available to us now, could only state that, in some sense, the origin of life appears at the moment to be **almost a miracle**. So many are the conditions which would have had to have been satisfied to get it going. But this should not be taken to

imply that there are good reasons to believe that it could not have started on the earth by a perfectly reasonable sequence of fairly ordinary chemical reactions. **The plain fact** is that the time available was **too long**, the many microenvironments on the earth's surface **too diverse**, the various chemical possibilities **too numerous** and our own knowledge and imagination **too feeble** to allow us to be able to unravel exactly how it might or **might not have happened** such a long time ago, especially as we have **no experimental evidence** from that era to check our ideas against." (Francis Crick, *Life Itself, Its Origin and Nature*, 1981, p. 88)

"The number of intermediate varieties, which have formerly existed must be truly enormous. Why then is not every geological formation and every stratum full of such intermediate links? Geology assuredly does not reveal any such finely graduated organic chain; and this, perhaps is the **most obvious and serious objection** which can be urged against the theory." (Darwin, Charles, *Origin of Species*, 6th edition, 1902 p. 341-342)

"Often a cold shudder has run through me, and I have asked myself whether I may have not **devoted myself to a fantasy.**" (Charles Darwin, *The Life and Letters of Charles Darwin*, 1887, Vol. 2, p. 229)

"The geological record has provided **no evidence** as to the origin of the fishes." (Norman, J., *A History of Fishes*, 1963, p. 298)

"None of the known fishes is thought to be directly ancestral to the earliest land vertebrates." (Stahl, B., *Vertebrate History: Problems in Evolution*, Dover Publications, Inc., NY, 1985, p. 148)

"The pathetic thing is that we have scientists who are trying to prove evolution, which **no scientist can ever prove.**" (Millikan, Robert A., *Nashville Banner*, August 7, 1925, quoted in Brewer's lecture)
