

Evolutionists Consider **A New Theory of Evolution**

Mark Bergemann

“Modern Synthesis” (aka “Neo-Darwinian theory”) describes the current view—the mainstream scientific model—of how new species are naturally produced (biological evolution). For nearly six decades it has been THE explanation taught in classrooms and used in laboratories.

A 2022 book by microbiology Professor James Shapiro challenges Modern Synthesis. The back cover of this 665-page book proclaims in bold caps,

IT IS TIME FOR A NEW THEORY OF EVOLUTION BASED ON GENOMICS, NOT GUESSES.¹

Evolutionary biologists (such as Ernst Mayer, Richard Dawkins, and Jerry Coyne) are the experts who define the mainstream model of how biological evolution works. In other words, they write the evolution narrative of how a bacteria-like creature evolved into people. Modern Synthesis was invented by evolutionary biologists in the 1930s and is still championed by most evolutionary biologists today.

An alternative model grew from the work of biologist Barbara McClintock in the 1940s and 50s. Three decades later (1983), she received a solo Nobel prize for that work. Some advocates for this alternative model call it “Extended Evolutionary Synthesis” (EES). Shapiro calls it “Natural Genetic Engineering” (NGE).²

A 2014 article in the prestigious science journal, *Nature*, hosted a debate between fifteen scientists who answered the question, “Does evolutionary theory need a rethink?” One side answered (bold caps in original),

¹ James A. Shapiro, *Evolution—A View From the 21st Century. Fortified. —Why Evolution Works as Well as It Does*, 2nd ed. (Chicago: Cognition Press, 2022), back cover.

² Shapiro, 7.

YES, URGENTLY. ...The number of biologists calling for change in how evolution is conceptualized is growing rapidly. Strong support comes from allied disciplines, particularly developmental biology, but also genomics, epigenetics, ecology and social science. We contend that evolutionary biology needs revision if it is to benefit fully from these other disciplines. The data supporting our position gets stronger every day. Yet the mere mention of the EES often evokes an emotional, even hostile, reaction among evolutionary biologists. ...This is no storm in an academic tearoom, it is a struggle for the very soul of the discipline.³

The other side answered (bold caps in original),

NO, ALL IS WELL. ... There are evolutionary biologists (see “Yes, urgently”) who argue that theory has since ossified around genetic concepts. More specifically, they contend that four phenomena are important evolutionary processes: phenotypic plasticity, niche construction, inclusive inheritance and developmental bias. We could not agree more. We study them ourselves. But we do not think that these processes deserve such special attention as to merit a new name such as “extended evolutionary synthesis.” Below we outline three reasons why we believe that these topics already receive their due in current evolutionary theory.⁴

A 2022 article presents the history of this scientific debate under the title (and lengthy subtitle),

Do we need a new theory of evolution? A new wave of scientists argues that mainstream evolutionary theory needs an urgent overhaul. Their opponents have dismissed them as misguided careerists—and the conflict may determine the future of biology.⁵

³ Kevin Laland, et al., “Does evolutionary theory need a rethink? YES, URGENTLY,” *Nature* 514 (Oct 9, 2014): pages 161–162 in downloadable pdf <https://www.nature.com/articles/514161a> (accessed 8-10-23).

⁴ Gregory A. Wray, et al., “Does evolutionary theory need a rethink? NO, ALL IS WELL,” *Nature* 514 (Oct 9, 2014): pages 161, 163 in downloadable pdf <https://www.nature.com/articles/514161a> (accessed 8-10-23).

⁵ Stephen Buranyi, “Do we need a new theory of evolution?” *The Guardian* June 28, 2022 <https://www.theguardian.com/science/2022/jun/28/do-we-need-a-new-theory-of-evolution> (accessed 8-10-23).

This article also mentions a third view: That we do not need a unified biological theory of evolution. It states,

To some scientists, though, the battle between traditionalists and extended synthesists is futile. Not only is it impossible to make sense of modern biology, they say, it is unnecessary. Over the past decade the influential biochemist Ford Doolittle has published essays rubbishing the idea that the life sciences need codification. “We don’t need no friggin’ new synthesis. We didn’t even really need the old synthesis,” he told me. What Doolittle and like-minded scientists want is more radical: the death of grand theories entirely. They see such unifying projects as a mid-century—even modernist—conceit, that have no place in the postmodern era of science. The idea that there could be a coherent theory of evolution is “an artefact of how biology developed in the 20th century, probably useful at the time,” says Doolittle.⁶

Modern Synthesis

Modern Synthesis—the mainstream scientific view—mixes (synthesizes) Darwinian theory with the theories of Mendel and others. It sees biological evolution as the environment selecting creatures with the most “fit” traits, and those traits change in small steps (gradualism) caused by random DNA mutations. The general trend is an accumulation of beneficial traits and that leads to more complex life forms.^{7,8} *Modern Synthesis*

⁶ Buranyi.

⁷ “*The Modern Synthesis has been one of the greatest intellectual achievements of biology. By merging the traditions of Darwin and Mendel, evolution within a species could be explained: Diversity within a population arose from the random production of mutations, and the environment acted to select the most fit phenotypes. Those animals capable of reproducing would transmit the genes that gave them their advantage. ...It was assumed that the same kinds of changes (gene or chromosomal mutations) that caused evolution within a species also caused the evolution of new species.*”

Scott F. Gilbert, *Developmental Biology*, 6th ed. (Sunderland (MA): Sinauer Associates, 2000), section “A New Evolutionary Synthesis” in chapter 22 at: <https://www.ncbi.nlm.nih.gov/books/NBK10128/> (accessed 8-10-23).

⁸ Eugene V. Koonin, “The Origin at 150: is a new evolutionary synthesis in sight?” author manuscript, *PMC PubMed Central*, NIH National Library of Medicine, Table 1, at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2784144/> (accessed 8-10-23).

claims that the primary driver of biological evolution is slow random DNA mutations that are then “selected” through natural selection.

“Extended Evolutionary Synthesis” (EES)

EES opposes Modern Synthesis. *EES claims that DNA mutations are not the primary driver of biological evolution.* Natural selection is not the primary process that causes major changes in living things. *Rapid processes are primary*, such as “symbiogenesis, horizontal DNA transfer, action of mobile DNA and epigenetic modifications.”⁹

EES partially—sometimes completely—rejects many of the basic claims made by Modern Synthesis. EES rejects gradualism, and instead asserts that large-scale changes are possible and even necessary.¹⁰ Shapiro points out that Modern Synthesis, “ignores over 60 years of molecular science.”¹¹ He also downplays the role of mutations, “Random copying errors can no longer be considered a basic feature of evolutionary change.”¹²

Prominent microbiologist Eugene Koonin¹³ writes,

Evolutionary-genomic studies show that natural selection is only one of the forces that shape genome evolution and is not quantitatively dominant, whereas non-adaptive processes are much more prominent than previously suspected. Major contributions of horizontal gene transfer and diverse selfish genetic elements to genome evolution undermine the Tree of Life concept.¹⁴

⁹ The Third Way—evolution in the era of genomics and epigenetics, <https://www.thethirdwayofevolution.com/> (accessed 8-10-23).

¹⁰ Koonin, “The Origin at 150,” Table 1.

¹¹ Shapiro, 17.

¹² Shapiro, 19.

¹³ “Eugene V. Koonin is the leader of the Evolutionary Genomics Group at the National Center for Biotechnology Information (NCBI) at the NIH. He is known primarily for his research on genome evolution.” National Academy of Sciences, Member Directory, <http://nasonline.org/member-directory/members/20038968.html> (accessed 8-10-23).

¹⁴ Eugene V. Koonin, “Darwinian evolution in the light of genomics,” *Nucleic Acids Research* vol. 37, no. 4 (2009): 1011-34. Also published in *PMC PubMed Central*, NIH National Library of Medicine, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2651812/> (accessed 8-10-23).

Eighty researchers and authors have challenged both Modern Synthesis and creation¹⁵ by contributing to the website, “*The Third Way—evolution in the era of genomics and epigenetics.*” Shapiro is a founding member of this website, which prominently states in large print on its home page,

The vast majority of people believe that there are only two alternative ways to explain the origins of biological diversity. One way is Creationism that depends upon intervention by a divine Creator. That is clearly unscientific because it brings an arbitrary supernatural force into the evolution process.

The commonly accepted alternative is Neo-Darwinism, which is clearly naturalistic science but ignores much contemporary molecular evidence and invokes a set of unsupported assumptions about the accidental nature of hereditary variation. Neo-Darwinism ignores important rapid evolutionary processes such as symbiogenesis, horizontal DNA transfer, action of mobile DNA and epigenetic modifications.

Moreover, some Neo-Darwinists have elevated Natural Selection into a unique creative force that solves all the difficult evolutionary problems without a real empirical basis. Many scientists today see the need for a deeper and more complete exploration of all aspects of the evolutionary process.¹⁶

Bias in Science

Most people think that science is unbiased. In reality, biases play a significant and sometimes overwhelming role in science. The EES vs.

¹⁵ Note the extremely weak argument against creation (the second and third sentences of the quotation). They correctly point out that creation is not scientific, because science assumes only natural causes (no miracles allowed). Yet the purpose of those two sentences is to show that creation is false. The quotation goes wrong when an unprovable assumption is used as the reason why creation is false. The quotation essentially claims that there is no creator god because we have assumed that there is no creator god. That of course, is “begging the question”—a logical fallacy—an error in reasoning. For more, see, “What Is Science on pages 5–35 in the winter 2021 LSI Journal at www.LutheranScience.org/2021winter and “Begging The Question” in the summer 2020 LSI Journal on pages 14–20 at www.LutheranScience.org/2020summer.

¹⁶ The Third Way—evolution in the era of genomics and epigenetics, <https://www.thethirdwayofevolution.com/> (accessed 8-10-23).

Modern Synthesis debate demonstrates this. Shapiro reports on a conference presentation by world-famous Princeton biologists Peter and Rosemary Grant. Shapiro relates how the Grants were asked why field observations of interspecies genome transfer (a part of EES) had been essentially ignored by the mainstream science community. Shapiro relates,

Peter Grant answered, “Ernest Mayer.” What Peter meant was the influence of Mayer’s theoretical dictum that recently separated species did not interbreed. Since Mayer was one of the neo-Darwinian giants of Modern Synthesis, his speculations were taken as accepted fact. The answer prompted someone in the audience to comment, “Great biologists can only impede progress, not stimulate it.”¹⁷

What Do You Think?

As creationists, we reject the claim that new biblical kinds of creatures can be naturally produced, but we can accept that new species have been—and continue to be—naturally produced (but always within their own kind). We can use our God-given human reason to evaluate which mechanisms seem to better explain how new species develop naturally.

Does Modern Synthesis or EES better explain how new species are naturally produced? Today, most biologists think living things evolve through mechanisms described by both theories (through natural selection of mutated DNA but also through the non-adaptive processes of EES). The question is: Are some of these mechanisms the primary cause for change while others are minor players?

Most evolutionary biologists (scientists who write the biological part of the evolution story) still oppose the idea that EES mechanisms are the primary drivers of biological evolution, while DNA mutations and natural selection are minor players. Yet it seems that there is growing momentum behind EES ideas. That may someday result in EES becoming the new scientific model taught in science textbooks. Science changes. The evolution story is no different than other areas of science. Evolution constantly evolves.

¹⁷ Shapiro, 16.