

ONTOGENY AND PHYLOGENY

STEPHEN JAY GOULD

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What did Stephen Jay Gould contribute to evolutionary theory? Gould's most significant contribution to evolutionary biology was the theory of punctuated equilibrium developed with Niles Eldredge in 1972. The theory proposes that most evolution is characterized by long periods of evolutionary stability, infrequently punctuated by swift periods of branching speciation.

What is ontogeny and phylogeny? Ontogeny refers to the development of an organism while phylogeny refers to how the organisms have evolved.

Which evolutionary process did scientists Stephen Jay Gould and Niles Eldredge propose? Gould, with Niles Eldredge, proposed the theory of punctuated equilibrium, a view of evolution by which species undergo long periods of stasis followed by rapid changes over relatively short periods instead of continually accumulating slow changes over millions of years.

Who rejected Ontogeny recapitulates phylogeny? most authors (including Darwin) rejected the claim that ontogeny is the recapitulation of the adult stages of the ancestors. Ernst Mayr (1982), *Growth of Biological Thought*, , p.

What is the Gould theory of development? Gould's (1978) theory charts inner stages of consciousness in which the adult gives up various illusions and myths held over from childhood. Gould sees this process as freeing oneself from childhood restraints and establishing a sense of personal identity.

What is Gould saying about how evolution works? [Stephen Jay Gould:] There is no progress in evolution. The fact of evolutionary change through time doesn't

represent progress as we know it. Progress is not inevitable. Much of evolution is downward in terms of morphological complexity, rather than upward.

What is the theory of ontogeny? Ontogeny (also ontogenesis) is the origination and development of an organism (both physical and psychological, e.g., moral development), usually from the time of fertilization of the egg to adult. The term can also be used to refer to the study of the entirety of an organism's lifespan.

Who proposed ontogeny repeats phylogeny? Ontogeny repeats phylogeny was expressed by Ernst Haeckel which explains that the development of embryo of an organism from fertilization to gestation goes through various stages of growth and development that resembles successive adult stages in the evolution of the organism's remote ancestors.

How does ontogeny recapitulates phylogeny relate to evolution? Ernst Haeckel coined the term 'Ontogeny recapitulates phylogeny'. It notes that evolutionary history and all the intermediate forms of its ancestors are represented by the growth of an organism (ontogeny) (phylogeny). Recapitulation means the development of an embryo following the organism's evolutionary past.

Is evolution a fact or theory according to Gould? Gould frequently distinguished between evolution, which he described as “a fact,” and the theory of evolution, which “is a theory.” He described facts as statements about the world “confirmed to such a degree that it would be perverse to withhold provisional assent.” The empirical evidence for evolution easily met that ...

What is the Gould and Eldredge theory? But in 1972, evolutionary scientists Stephen Jay Gould and Niles Eldredge proposed another explanation, which they called "punctuated equilibrium." That is, species are generally stable, changing little for millions of years.

What did Gould and Darwin discover? Gould identified 13 new finch species (now reduced to nine) by this morphological difference. Today these unique finches are known as 'Darwin's finches' or 'Galapagos finches'. Gould's identification of these bird species played an important part for Darwin when he was formulating his theory of evolution.

Why is ontogeny recapitulates phylogeny not true? Of course, this is not really true, but the implication is that there may be embryological similarities. Although there are often developmental similarities that do reflect shared evolutionary history, development (ontogeny) does not necessarily reflect (recapitulate) shared evolutionary history (phylogeny).

Why is recapitulation theory wrong? Haeckel produced several embryo drawings that often overemphasized similarities between embryos of related species. Modern biology rejects the literal and universal form of Haeckel's theory, such as its possible application to behavioural ontogeny, i.e. the psychomotor development of young animals and human children.

What does the biological phrase ontogeny recapitulates phylogeny? This famous proposition from biology suggests that, if we have similar embryologic development, we are closely related.

The Institutional ETF Toolbox: How Institutions Can Harness the Power of ETFs

Introduction: Exchange-traded funds (ETFs) have gained immense popularity among institutions due to their flexibility, diversification, and cost-effectiveness. As the ETF market continues to expand, institutions are increasingly leveraging ETFs to meet their investment objectives.

Q1: What are the key benefits of using ETFs for institutions? A: ETFs offer several advantages for institutions, including:

- **Diversification:** ETFs provide instant exposure to a broad range of assets, reducing single-stock or sector concentration.
- **Flexibility:** ETFs are highly liquid and can be easily bought and sold throughout the trading day.
- **Tax efficiency:** ETFs can be more tax-efficient than traditional mutual funds due to their in-kind redemptions.

Q2: What types of ETFs are available to institutions? A: Institutions can access a wide range of ETFs, including:

- **Equity ETFs:** Track the performance of specific equity indexes or sectors.
- **Fixed Income ETFs:** Offer exposure to various bond markets and fixed income assets.
- **Commodity ETFs:** Provide access to commodities such as gold, oil, and agriculture.
- **Alternative ETFs:** Cover non-traditional investments such as real estate, hedge funds, and private equity.

Q3: How can institutions evaluate ETFs? A: Institutions should consider the following factors when evaluating ETFs:

- **Index:** The underlying index or strategy tracked by the ETF.
- **Expense ratio:** The annual management fee charged by the ETF.
- **Volume:** The average daily trading volume to ensure liquidity.
- **Tracking error:** The difference between the ETF's performance and the underlying index.

Q4: What are the best practices for ETF portfolio management? A: Institutions should adopt best practices for ETF portfolio management, such as:

- **Diversify across asset classes:** Combine ETFs from different sectors and asset classes to reduce risk.
- **Consider active management:** Combine passive ETFs with actively managed ETFs to enhance returns.
- **Monitor and rebalance regularly:** Regularly review ETF performance and rebalance portfolios as needed to maintain desired allocations.

Q5: How can institutions leverage ETFs in specific investment strategies? A: Institutions can utilize ETFs in various investment strategies, including:

- **Core-Satellite:** Build a core ETF portfolio with broad exposure and complement it with satellite ETFs for specific sectors or themes.
- **Smart Beta:** Employ ETFs based on advanced indexing strategies that aim to outperform traditional market-cap weighted indexes.

- **Factor Investing:** Use ETFs to gain exposure to specific factors such as value, growth, or momentum.

What is Outlander book 8 about? The British evacuation of Philadelphia and the ensuing Battle of Monmouth are the major events from the book based on real history. Claire marries John Grey for protection after Jamie is presumed lost at sea. John and Jamie fight when the details are revealed.

What is Outlander book 5 about? Plot summary With the American Revolution only a few years away and unrest brewing, Jamie is called to form a militia to put down the beginnings of rebellion in North Carolina, and risk his life for a king he knows he must betray soon.

Is there a final book in the Outlander series? A comprehensive guide to everything we know so far about the 10th and final book in the 'Outlander' series by Diana Gabaldon. Author Diana Gabaldon has been working on her 10th and final "Outlander" book since 2021. It does not have a release date, but Gabaldon has predicted it will come out between 2024 and 2026.

What comes after The Fiery Cross in Outlander series? Remember, man, that thou art dust, and unto dust thou shalt return. And if Time is anything akin to God, I suppose that Memory must be the Devil. That's the Prologue to A BREATH OF SNOW AND ASHES, the sixth novel in the bestselling OUTLANDER series of major novels (following THE FIERY CROSS).

What happens to Jamie and Claire in book 8? Claire is shot. Jamie resigns his commission to stay with her, and Denzell Hunter performs a surgery to retrieve the bullet. Grey is reunited with William and Hal. Ian kills one of the Indians who attacked him earlier, and leaves the British camp.

What happened to Jane in Outlander book 8? William asks Jamie for help when he learns from Fanny that Jane is to be executed for the murder of Captain Harkness. Jamie and William try to rescue Jane, but she commits suicide before they reach her. William puts Fanny in Claire's care and Jamie and departs after acknowledging Jamie is his father.

How old is Jamie when he dies in Outlander? As revealed in a 2014 interview on the Outlander Podcast, Diana Gabaldon shared that Jamie is approximately 25 years old when he passes away, corresponding to the age of the ghost. Despite Jamie's numerous brushes with death throughout the series, his ultimate fate is a significant aspect of the Outlander narrative.

Does Jamie ever go to the future? Meanwhile Jamie himself is not able to time travel, a fact which has prompted much of the show's most heartbreaking drama. (When Frank briefly sees Jamie in the 1940s? That, according to Gabaldon, is his ghost, not his time-traveling corporeal self.)

Why is Jamie's Ghost watching Claire?

How old is Claire in Fiery Cross? Claire is in her mid-50s in *Drums of Autumn* and *The Fiery Cross*, the fourth and fifth books in the series in which Jamie and Claire head into the 1770s and settle in the American colonies.

How does Outlander end? With Jamie (Sam Heughan) held hostage by Donner's men, he threatens the Frasers to get what he wants — but his methods go awry when he lights a match and sends the house into a fiery blaze as the flame makes contact with Claire's homemade ether. The house explodes as Jamie and Claire try to leap to safety.

What does The Fiery Cross mean in Outlander? Jamie explains the history of the tradition—that Scottish chieftains would burn a fiery cross when calling the men in their clan to war. He knows he's not their chief, and they are not a clan, but he hopes that if the time comes, they'll stand by his side.

Will the 10th Outlander book be the last? It will follow *GO TELL THE BEES THAT I AM GONE*, the ninth major novel featuring the story of Claire and Jamie, which was first published on November 23, 2021. Book Ten might be the last of my Outlander novels which feature Jamie Fraser and Claire Beauchamp Randall Fraser.

Is Outlander a completed book series? Outlander is a series of historical fantasy novels by American author Diana Gabaldon. Gabaldon began the first volume of the series, *Outlander*, in the late 1980s, and it was published in 1991. She has published nine out of a planned ten volumes.

Is there an end to Outlander series? Season eight will be the show's final season. We're thrilled to continue to partner with Matthew, Maril and Ronald and can't wait to see where their alluring storytelling takes us next." (The 26 new episodes refer to the 16 slated for season seven, and ten more for season eight.)

What happens to Claire and Jamie at the end of Outlander? Back in Scotland, Claire is pregnant, and Jamie is certain he will perish in the Battle of Culloden. In an act of true love, Jamie insists that Claire returns to her time period for herself and their child. After an emotional goodbye, Jamie guides Claire's hands to the standing stone, and they are separated.

Sinhala E-Books: Questions and Answers

Q: What are Sinhala e-books? A: Sinhala e-books are digital versions of books written in the Sinhala language. They are typically available in various electronic formats, such as PDF, EPUB, and MOBI, and can be read on computers, tablets, and smartphones using e-readers or apps.

Q: Where can I find Sinhala e-books? A: There are several online platforms and libraries that offer Sinhala e-books. Some popular options include:

- The Sri Lanka E-Books Repository (SLER): <https://sler.lk/>
- The National Library of Sri Lanka: <https://www.nlsa.gov.lk/>
- The International Buddhist Research Center: <https://www.ibrc.org/>

Q: What are the benefits of reading Sinhala e-books? A: Reading Sinhala e-books offers several advantages:

- **Convenience:** E-books are easy to access, store, and carry, making it convenient to read Sinhala literature wherever and whenever you want.
- **Availability:** E-books provide a wider selection of Sinhala books than traditional printed books, especially those that may be out of print or hard to find.
- **Accessibility:** For those with visual impairments or difficulties reading physical books, e-books offer features such as adjustable font sizes and text-to-speech options.

Q: Are there any challenges associated with Sinhala e-books? A: While e-books provide many benefits, there are some challenges to consider:

- **Digital rights management (DRM):** Some e-books may be protected by DRM, which can restrict copying, printing, or lending.
- **Compatibility issues:** Not all e-readers or apps support all e-book formats.
- **Eye strain:** Prolonged reading on electronic screens can cause eye strain or fatigue, especially in low-light conditions.

Q: What should I consider when choosing a Sinhala e-book reader or app? A: When selecting an e-book reader or app for Sinhala e-books, consider the following factors:

- **Device compatibility:** Ensure that the reader or app supports the e-book formats you want to read.
- **Sinhala font support:** Choose a reader or app that supports Sinhala characters and encoding.
- **Additional features:** Some apps may offer additional features such as bookmarks, note-taking, and text-to-speech functionality.

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