

# Review of: "Femmes finales: natural selection, physiology, and the return of the repressed"

John Torday<sup>1</sup>

<sup>1</sup> University of California, Los Angeles

**Potential competing interests:** No potential competing interests to declare.

## Critique of the Haig paper

General Comment: this is a well written, informative article regarding the history of teleology in biology. Unfortunately, it does not include more recent work on the epigenetics of evolution.

Specific comments:

[I agree with Laland regarding the failure to integrate developmental biology into the Modern Synthesis, given that it is the only biologic discipline that provides mechanisms for the formation of structure and function.]

[The failure to account for physiology in evolution theory is of prime importance. In fact, Roux (Roux E. The concept of function in modern physiology. J Physiol. 2014 Jun 1;592(11):2245-9) pointed out the fallacy in describing biologic traits based on their functions. Others have more recently integrated physiology into evolution (Reber, Baluska, Torday), none of whom are cited in this otherwise interesting article.]

## [How do you test Natural Selection experimentally?]

## [Population Genetics is descriptive]

The author makes no mention of the recent initiatives to incorporate epigenetic inheritance into evolution theory (Baluska F, Torday J, Reber A, Miller W). This approach allows for testable hypotheses regarding evolution, and offers predictive power. For example, in (Torday JS. Consciousness, embodied Quantum Entanglement. Prog Biophys Mol Biol. 2023 Jan;177:125-128) the author shows the link between non-local consciousness and Quantum Entanglement, invoking empiric evidence for the first time.