

---

# Evolution without Natural Selection: Darwin's Domain of the Useless

Thomas Robert\*<sup>1,2</sup>

<sup>1</sup>Université de Genève – 24 rue du Général-Dufour CH - 1211 Genève 4, Switzerland

<sup>2</sup>University of Calabria / Università della Calabria (Unical) – Campus di Arcavacata via Pietro Bucci  
87036 Arcavacata di Rende (CS), Italy

## Abstract

Darwin is often reduced to a single book, *On the Origin of Species*, and to its main thesis: descent with modification by means of natural selection. Such an emphasis on natural selection leaves aside several issues fruitfully treated by the naturalist. Animal behaviour is one of them. However, in both his manuscripts and his later works, such as *The Descent of Man* and *The Expression of the Emotions in Man and Animals*, Darwin develops a peculiar ethology based on anecdotes expressed in anthropomorphic terms. The study of Darwinian ethology makes appear a domain of the useless, in which the significance of non-adaptative and anti-adaptative structures and behaviours is recognised. Expressive movements, sexual and social behaviours are paradigmatic example of the domain of the useless. Far from being isolated phenomena, useless structures and behaviours have transformative power over the Darwinian transmutationism in general and over natural selection in particular: animals are complex beings and cannot be limited to their adaptive features; natural selection cannot be considered as an active, creative principle but has to be redefined as being purely negative, eliminative. In short, the study of the domain of the useless leads to recognise that Darwinian ethology is not conformed to the realist-Cartesian paradigm still applied in mainstream ethology and makes appear the necessity of an evaluation of the centrality of natural selection in the context of the Darwinian transmutationism.

---

\*Speaker