
Revisiting Petr Kropotkin: Is competition necessary for natural selection?

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Abstract

Petr Kropotkin (*Mutual Aid: A Factor of Evolution*, 1902) has been read with enthusiasm mostly by political thinkers and critical theorists. However, except for S.J. Gould (1997), L. Margulis (1991) and K.A. Peacock (2011), few philosophers of biology and biologists have paid attention to his biological writings. Recently, the work of some historians like D.P. Todes (1989) and J. Sapp (1994) indicates a growing interest in his biological thoughts (and more broadly in Russian evolutionary theories). Thus far, this interest has almost strictly been historical. In my presentation, I first want to argue that Kropotkin's work has been underestimated in biology and in philosophy of biology, and that it deserves to be reconsidered. Secondly, I would like to illustrate how such reconsideration can shed new light on contemporary evolutionary issues. I reframe these ideas in the broader context of the current debates on the relative importance of competition and cooperation in selective and evolutionary processes (See for example Carrapiço 2012). I focus on Chapters I and II of *Mutual Aid* (on mutual aid among animals), and show how an emphasis on the role of abiotic pressures/checks (such as the direct action of climate) can make evolutionary phenomena clearer. Following Kropotkin, I argue that when such forces are at play, strict competition is not always necessary for natural selection to occur, even when the selective challenge is a lack of resources.

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