

**EVOLUTIONARY POLITICS:
LESSONS FROM THE IMMUNE SYSTEM.**

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ABSTRACT. Consider a society consisting of a large number of individuals (about 10^{13} , several orders of magnitude larger than today's world population) organized in hundreds of different social groups (current count of UN countries being about 200) and employed in many different jobs. Assume further a huge immigration rate (about 10^{11} new arrivals per day) coupled to a high mortality rate, so as to balance the previous figure. Such society enjoys full employment, and wealth is shared by all individuals. Order is maintained by an extremely efficient police force that keeps threatening aliens at bay. What kind of government could possibly be up to the task of ruling such society?

The answer is simple: none. Anarchy prevails in the society we have summarily described, which is not located at the remote island of Utopia: it is just you (or me) and no central organ of control is in charge of its operation. Its efficient performance is an emergent property, resulting from individual decisions of its cells, and is not centrally regulated from any commanding headquarters. We shall describe in this lecture some features of one of the cornerstones of this complex structure, the immune system, and will shortly remark on other cell regulation properties which show a distinct emergent character as well.