

The 10,000 Year Explosion: How Civilization Accelerated Human Evolution (2009) by Gregory Cochran and Henry Harpending

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BOOK REVIEW

In *The 10,000 Year Explosion*, biological anthropologists Gregory Cochran and Henry Harpending attempt to prove that evolution within our species, *Homo sapiens sapiens*, has accelerated over the past 10,000 years. The notion that our species has been subject to the same mechanisms of evolution (natural selection, nonrandom mating, mutation, genetic drift and gene flow) over the past 10,000 years as all other organisms on the planet is an important hypothesis to defend. Several evolutionary anthropologists and biologists over the past few decades have supported an idea that evolution ceased to affect our species after ‘biological modernity’ was achieved during ‘The Great-Leap Forward’ 40,000 years ago (Diamond 1992:32; Gould 2000:18-19; Cronin 2003:53). This hypothesis is not only unsupported by recent genetic evidence (e.g., Cochran and Harpending 2009:18-19; Jablonski and Chaplin 2010:8962; Gerbault et al. 2011:863), but it also reinforces the idea that because humans are cultural animals we have somehow managed to become immune to universal evolutionary processes.

The central purpose of *The 10,000 Year Explosion* is to dismantle this idea, and argue that there has been a ‘storm of [genetic] change’ in the past 50,000-40,000 years as the result of adaptation to various new environments, which has only been accelerated in the past 10,000 years via cultural and technological developments (Cochran and Harpending 2009:2). The authors accurately recognize that there are many genetic traits that are the result of very recent genetic mutations among certain human populations, and that those mutations were not just for ‘surface characteristics’ like skin colour (Cochran and Harpending 2009:14).

The authors' entire argument is structured within a racial framework, which insinuates that over the past 10,000 years humanity has fractured into distinct racial types under rapid punctuated equilibrium-like genetic change. However, their racial classificatory scheme is never defined, and arbitrarily groups populations of humans by religion (e.g., Jews), nationality (e.g., Nigerians), language family (e.g., Indo-Europeans) and continental origin (e.g., Eurasians) when convenient for their argument. Throughout the book the authors insinuate biologically determined and racialized explanations for 'Indo-European' and/or 'Eurasian' 'civilizational complexity' and suggest that there are genetic reasons for why populations who were late to adopt agriculture are now at an impossible disadvantage in the modern world (Cochran and Harpending 2009:121-122). Cochran and Harpending use this confusing racialized method in order to build towards a process of hierarchically ranking racial types by intellect and to search for the evolutionary pressures that produced today's 'genius races'.

In the final chapter titled: "Medieval Evolution: How the Ashkenazi Jews Got Their Smarts" (Cochran and Harpending 2009:187), the authors attempt to defend the idea that the Ashkenazi Jews are a distinct genetic population of humans whom, through a process of "natural selection for white-collar occupations" in-between 800-1700 C.E., acquired remarkably advanced intellectual abilities (e.g., Cochran and Harpending 2009:199). The evidence they mobilize to 'conclusively prove' that the Ashkenazi Jews are the smartest humans include disproportionately high Intelligence Quotient (IQ) scores, enrollment in prestigious western academic institutions, and exceptional contributions to science and mathematics over the past 200 years (Cochran and Harpending 2009:188-189). A historical account of Ashkenazi Jews in the 19th and early 20th centuries is beyond the scope of this book review, however IQ scores, university enrollment and excellence in science and math are not absolute measures of intelligence, but rather, achievements that must be understood in a socio-cultural context. Throughout the book they do not explicitly layout an intellectual hierarchy of humanity, however it is implied several times in the narrative. For example, claims are made regarding the proportion of 'geniuses' within Ashkenazi Jewish and northern European populations (23 out of 1,000 for Ashkenazi Jews and 4 out of 1,000 for northern Europeans) (Cochran and Harpending 2009:211).

To conclude that certain 'races' of humans are more intelligent and using IQ scores as the metric to measure this intelligence is unscientific and not grounded in contemporary biological anthropological theory (Montagu 1998:150). Although the authors did not make *Bell Curve*-like suggestions (e.g., Hernstein and Murray 1994) to encourage politicians to reject social policies designed to help historically marginalized and oppressed members of society, they did indicate that 'races' like Aboriginal Australians and Kalahari Bushmen were not

genetically capable of competing in the modern world with their agriculturally adept counterparts from Eurasia (Cochran and Harpending 2009:121-122). They also claimed that over the past 10,000 years humanity has become increasingly fractured into distinct racial groups (Cochran and Harpending 2009:15). While the debate regarding the genetic variation between and within human populations is one grounded in science and empirical evidence from recent studies in population genetics (e.g., Tang et al. 2005:268), racializing those genetic differences and suggesting that humanity has been biologically fracturing over the past 10,000 years is rooted in a pseudo-scientific folk heredity (Marks 2003:94).

From my personal perspective, understanding recent human evolution and human genetic diversity was something that attracted me to the discipline of biological anthropology. Unfortunately, by using race as a natural fact, this book undermines the attempt to find a legitimate scientific approach to understanding recent human evolution and conceptualizing human genetic diversity. Even more unfortunate is the fact that this book received a positive reception from the public and praise from prominent, influential well-established biological anthropologists (e.g., Hawks 2009). I shared the critics' views that these authors argued persuasively and presented valid evidence supporting the idea that humans are still evolving and that the development of agriculture and civilization may have presented selection pressures which accelerated human evolution (Kelleher 2009). However, the authors employed an undefined and oftentimes arbitrary racial classificatory scheme, assumed race to be a natural fact, used ethnocentric metrics to measure intelligence and attempted to lay the ground work for the racial classification of humanity by intelligence.

Moving forward, I think biological anthropologists must become the most vocal combatants of racialized science. Regardless of whether scientists using the race concept inscribe positive or negative meaning to the racial differences they see in their data, racialized science needs to be acknowledged for what it is: a pseudo-science. It should never be supported within the discipline, and a great deal of effort should be devoted to ensuring the public understands the difference between natural and social facts. Advances in population genetics can teach us a lot about recent human evolution; however, we must articulate clearly that although humans are animals still subject to the same processes of evolution as all other organisms, and although it is possible to make comparisons between people and study their differences, genetic diversity is best represented as an unbounded continuum. Categorizing populations into racial types, regardless of classificatory scheme, fails to accurately conceptualize human diversity because it attempts to box a continuum and highlights certain differences and ignores others. Human differences only become racial differences when we *imagine* two people to be representatives of larger mutually exclusive entities (Marks 2003:69). *The 10,000*

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• **vis-à-vis: Explorations in Anthropology**

Year Explosion may have occurred, but it cannot be understood by using race as an analytical tool.

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