
The Bioethical Significance of “The Origin of Man’s Ethical Behavior” (October 1941, unpublished) by Ernest Everett Just and Hedwig Anna Schnetzler Just

Theodore Walker Jr.

Southern Methodist University, Dallas, Texas 75275

E. E. Just (1883-1941) is an acknowledged “pioneer” in cell biology, and he is perhaps *the* pioneer in study of egg cell fertilization. Here we discover that Just also made pioneering contributions to general biology and evolutionary bioethics. Within Just’s published contributions to observational cell biology, there are substantial fragments of his theory of ethical behavior, a theory with roots in cell biology. In addition to such previously available fragments, Just’s fully developed theory is now available. This recently discovered unpublished book-length manuscript argues for *the biological origins of ethical behavior* (evolving from cells to humans, within a living environment, and subject to the “law of environmental dependence”). Contemporary research is starting to catch up to Just. In evolutionary bioethics, Just is *the* pioneer.

Introduction

This book and literature review seeks to reveal the bioethical significance of a recently discovered (25 May 2018) unpublished book-length deliberation on *the biological origins of ethical behavior*. It was written by Howard University cell biologist Ernest Everett Just and coauthor Hedwig Anna Schnetzler Just. This deliberation was titled “Ethics and the Struggle for Existence” in April 1941, then retitled “The Origin of Man’s Ethical Behavior” (Manning 1983: 327, 385 note 12). Regrettably, E. E. Just died (in October 1941) before he could persuade a publisher to print this manuscript. It had been missing until recently.

Fortunately, this previously missing manuscript can now be found at the Howard University Moorland-Spingarn Research Center among the collected papers of Ernest Everett Just. There, in box 125-19, folder 382 contains most of the following 251 pages:

- [Chapter 1] **THE PROBLEM STATED** (pp. 1-17)
 - [Chapter 2] **EVOLUTION: OF FORM AND OF FUNCTION** (pp. 18-35)
 - [Chapter 3] **EVOLUTION: THE HUMAN NERVOUS SYSTEM** (pp. 36-51)
 - [Chapter 4] **EVOLUTION: THE NERVOUS SYSTEM OF INVERTEBRATES** (pp. 52- 91)
 - [Chapter 5] **THE PRIMORDIUM OF NERVOUS STRUCTURE AND FUNCTION (CONTINUED)** (pp. 92-100)
 - [Chapter 6] **MAN AND THE OUTSIDE WORLD** (pp. 101- 123)
 - [Chapter 7] **THE HUMAN MIND** (pp. 124-149)
 - [Chapter 8] **FEELING, REASON, AND WILL** (pp. 150-176)
 - [Chapter 9] **HAPPINESS** (pp. 177-203 + pp. 204-210 from handwritten pages 23-28 in box 125-21, folder 396)
 - [Postscript] **MUTUAL AID AND ETHICS** (pp. 211-243)
- Also:
Concerning various problems” ([in box 125-9, folder 162] pp. 244-247)
“Paris, March 1939” ([in box 125-21, folder 396] pp. 248-250)
“What is the original in our idea?” ([in box 125-21, folder 396] p. 251)

Here Just and Just connect theory about the origin and evolution of ethical behavior (evolutionary moral theory) to evolutionary biology.

Context and Content

In general biology, there are many books on evolution and the origin of life that were inspired by *On the Origin of Species By Means of Natural Selection; Or, the Preservation of Favoured Races in the Struggle for Life* (1859) by Charles Darwin. And in astrobiology and cosmic biology, there are many books on stellar evolution and the origin of heavy elements in stars and galaxies, including books such as *Lifecloud: The*

Origin of Life in the Universe (1978) by Sir Fred Hoyle and Chandra Wickramasinghe, and *Origins: Fourteen Billion Years of Cosmic Evolution* (2004) by Neil deGrasse Tyson and Donald Goldsmith.

In general bioethics, there are many books that connect evolutionary biology to ethics, including *The Descent of Man, and Selection in Relation to Sex* (1871, 1874) by Charles Darwin, *Evolution and Ethics* (1893) by Thomas Henry Huxley, and two books *Mutual Aid: A Factor of Evolution* (1902) and *Ethics: Origin and Development* (1924) by Peter Kropotkin. And of course, there are two book *Bioethics: Bridge to the Future* (1971) and *Global Bioethics: Building on the Leopold Legacy* (1988) by Van Rensselaer Potter. Potter conceived of “bioethics” as biology plus ethics, including environmental ethics. Accordingly, Potter dedicated his first book to the memory of Aldo Leopold (1887-1948), a land and forest conservationist “who anticipated the extension of ethics to Bioethics” (1971: v); and Potter described his second book on “global bioethics” as “building on the Leopold legacy (1988). Also, general bioethics is essential to “Bioethics: A Panorama of the Human Being’s Ethical Relations with Animals and Plants” (1927) by Fritz Jahr (Sass 2007).

General bioethics is distinct from special bioethics, such as specifically medical bioethics. In accordance with general bioethics indicated by Jahr (1927), Leopold (1948), and Potter (1971, 1988), and in accordance with Kropotkin’s generalization of mutual aid as a factor in evolution (and Kropotkin’s prediction that mutual aid would someday be observed among microbes), in “The Origin of Man’s Ethical Behavior” (October 1941, unpublished) Just and Just argued that human ethical behavior evolved from pre-human behaviors with primitive origins in cells and “cell surface” mediated cooperative interactions with other cells *and* the environment. Moreover, such evolutionary interactions are said to be governed by “the Law of Environmental Dependence” (Just and Just 1941: 168, 157-168).

In cell biology, study of the cell surface had been advanced by Just throughout the 1930s, culminating in *The Biology of the Cell Surface* (1939a) and *Basic Methods for Experiments on Eggs of Marine Animals* (1939b). Subsequent cell biologists working in various areas would describe Just’s work as pioneering (Dover 1954; Byrnes and Eckberg 2006; Crow 2008; Byrnes 2009, 2010; Newman 2013; Williams et al. 2013). Starting from study of the cell surface, Just eventually developed a cell-biology-instructed “theory of the origin and evolution of man’s ethical behavior” (Just and Just 1941: 16). In cell biology, Just was world famous. In moral theory, he was not. And according to Kenneth R. Manning’s *Black Apollo of Science: The Life of Ernest Everett Just* (1983), many of Just’s research associates actively discouraged his theoretical deliberations.

Nevertheless, theoretical deliberations do appear in some of Just’s contributions to cell biology. For instance, see: “Cortical Cytoplasm and Evolution” (1933); chapter 13 “Ectoplasm and Evolution” (pp. 354-361) and chapter 14 “Conclusion” (pp. 362-369) in *Biology of the Cell Surface* (1939a); and “Unsolved Problems of General Biology” (April

1940). Within these contributions to cell biology and general biology, Just inserted substantial fragments of his well-developed theory of ethical behavior. For example, without developing his law of environmental dependence, Just wrote, “Environment and organism are one” (1933: 23 [Mangal 2018: 33]) and “The organism cannot be separated from its environment, they form together one inter-acting system” (1939a: 356).

In fully developed form, Just’s bioethical theory held that human ethical behavior *evolved*, and will continue evolving. Like organic physiology, ethical behavior is the outcome of natural evolutionary processes. We evolve, or we stagnate, devolve, and perish. And almost prophetically, humanity is said to be “on the threshold of yet farther evolution” (Just and Just 1941: 176).

Crisis in Ethics

In their postscript “Mutual Aid and Ethics” Just and Just held that the prevailing interpretation of Darwin’s theory of natural selection “dates a crisis in ethics” (1941: 211). Though there was debate, given the prevailing overemphasis upon competitive struggle and little to no emphasis upon cooperation and mutual aid, most evolutionary biologists conceived of nature as “red in tooth and claw” [Tennyson] (1941: 14). Hence, natural scientists had come to conceive that ethical behavior (altruism-morality) is *not* natural.

In “a history of the altruism-morality debate in biology” (2013: 11-29) by Oren Harman, this history is chronologically ordered in four dyads: (1) Huxley and Kropotkin, (2) R. A. Fisher and Alfred Emerson, (3) Vero Cope Wynne-Edwards and George Williams, and (4) Bill Hamilton and George Price. With respect to the earliest dyad, we may now add that Just and Just advanced Kropotkin’s emphasis upon mutual aid (counterbalancing Huxley’s overemphasis upon struggle) by finding “the origin of man’s ethical behavior” in natural evolutionary processes. Hence, contrary to the prevailing separation of nature (and natural science) from ethics, according to Just and Just, from cells to humans, ethical behavior *is* natural.

Contemporary science is starting to catch up to Just. For instance, in *The Age of Empathy: Nature’s Lessons for a Kinder Society* (2009) Frans de Waal argues that *new research* is revealing altruism and fairness among nonhuman animals; and this new research can inspire pursuit of “a kinder society.” And in the foreword to *Evolved Morality: The Biology and Philosophy of Human Conscience* (2014) the editors (de Waal et al.) report that, unlike the 1970s and 1980s when “morality and evolution were considered largely incompatible,” biologists are “now returning to the view that morality requires and probably has an evolutionary explanation” (137 [Behaviour 151 (2014): 137-141], also de Waal 2006, 2019). And more recently, cooperative behavior is reported in “Team Players: Long thought mostly to compete with one another, microbes turn out to form partnerships that rule the planet” (November 2018) by Jeffrey Marlow and Rogier Braakman. Increasingly, contemporary researchers are starting to see what Just observed during the 1930s: ethical behavior in nonhuman nature, including cells.

Probably, Just was the first cell biologist to trace human ethical behavior to evolutionary processes reaching all the way back to cellular origins. Now that contemporary researchers are reconsidering evolutionary approaches to moral theory (de Waal et al.), we are now better prepared to appreciate Just’s pioneering contributions. By showing that ethical behavior is natural (evolving from cells to humans and environment), Just and Just contributed to overcoming a longstanding conceptual crisis in ethics (conceiving that ethical behavior is unnatural). And they contributed to our capacity to overcome our environmental crisis by showing that the law of environmental dependence is a natural law.

“The Origin of Man’s Ethical Behavior” (Just and Just, October 1941, unpublished) is a pioneering contribution to evolutionary bioethics.

Notes

In 1996, the US Postal service issued a Black Heritage postage stamp honoring Ernest Everett Just (1883-1941) for his work in biology.

[author captured image]



Subject/Image: Ernest Everett Just
Year: 1996
Country: USA
Face Value: 32 US cents
Description: Vertical, multi-colored and lithographed portrait fills the stamp frame. Black Heritage Series, caption: “Ernest E. Just, Biologist”
Link to online image: https://arago.si.edu/record_165677_img_1.html
Date accessed: 19 March 2018
Catalog Codes: Sn 3058
Sumitography by Lillie R. Jenkins

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*Corresponding author email: twalker@smu.edu

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