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Academy Report Probes Human Origins Suggests Genetic Factors Are Key But Not Paramount

A new **American Academy of Arts and Sciences** report rejects the increasingly popular view that DNA in the human genome is the sole determinant of human behavior. *Probing Human Origins* explores the scientific assumptions behind the evolution of humans and includes the reflections of biologists, anthropologists, and environmental and behavioral scientists. A complex interaction between genetic and cultural influences is responsible for humankind's ability to adapt to a broad range of external challenges, concludes the study.

"Paradoxically, because of genetic evolution, the future of the human species now depends most heavily on further cultural-social evolution rather than biological evolution," say the volume's co-editors, Academy Fellow **Morris Goodman** of Wayne State University and Anne Simon Moffat of the American Academy's Midwest Center.

The report focuses on recent academic findings that define human behavior. The opening chapters, by **Derek Wildman** et al. and **Deborah Gumucio** et al., discuss the remarkable similarity in the gene code between humans and chimpanzees, two species who have almost 99% of their coding DNA in common. They also identify select key gene changes that distinguish the cognitive differences between humans and primates.

A chapter by **Richard Potts** examines the relationship between gene selection and human adaptability to the environment. In a similar vein, **Peter J. Richardson** and **Robert Boyd** discuss the connection between human biology and culture, asserting that humans possessed genes that enabled them to develop culture. In their opinion, this interaction has prompted a cycle of symbiotic give-and-take between gene selection and cultural evolution. "Most evolutionary theories of human behavior inspired by Darwin underestimate the importance of culture in the evolution of behavior," according to the researchers.

The final chapter by **Roger Fouts** and **Mary Lee Jensvold** challenges the view that there were no earlier evolutionary predecessors to human language. Drawing on evidence from sign language studies of chimpanzees and from the similarities between humans and chimpanzees in the portion of the brain concerned with language, they assert that a common ancestor of humans and chimpanzees may have had the capacity for rudimentary language.

Probing Human Origins was published with support from the National Science Foundation (NSF) and reflects the Academy's five-year effort to study humankind's evolutionary roots, first supported by the Sloan Foundation. The report is available at the American Academy website at www.amacad.org.

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