ELSEVIER

Evolution and Human Behavior 21 (2000) 75–77

Evolution and Human Behavior

In Memoriam

W.D. Hamilton (1936–2000)

William Donald Hamilton died in London on Tuesday, March 7th, 2000, at the age of 63, from the effects of malaria contracted during a research expedition to the Congo. His loss constitutes an enormous setback to the field of inquiry that *Evolution & Human Behavior* covers, and a painful, personal blow to many of our readers.

Bill Hamilton is widely considered the most important theoretical biologist since Darwin. His genius, like Darwin's, resided largely in an ability to consider afresh his rich storehouse of highly specific and sometimes arcane biological knowledge in the context of fundamental issues of the greatest generality. He was, of course, the principal architect of inclusive fitness theory and hence of the "selfish gene" or "sociobiological" revolution that has shaped all subsequent thought and research on the evolution of social phenomena. He was also a primary contributor to contemporary understandings of the evolution of senescence, nonnepotistic cooperation, parasite-host coevolution, sex allocation, dispersal and population structure, signaling, and sexual reproduction. In an obituary in the *Guardian* (March 9th), Alan Grafen wrote,

> "The career of a typical Hamilton paper can be caricatured as follows. In review, it is panned by referees who demand shortenings and revisions. Immediately after publication, it attracts criticism for obscurity. Its significance slowly emerges through secondary works, further work is inspired, and one or more literatures develop around its themes. Later more mathematical work may even be rather partronising about the paper, and emphasise discrepancies, while the primary finding is that the original idea is abundantly confirmed."

Evolutionary biology might have arrived at its present state if Hamilton had never walked among us, but one must wonder how much longer it would have taken and whether any of us would now be applying evolutionary theory to the study of human social behavior.

Although he never conducted or sponsored an empirical study of human behavior, W.D. Hamilton was a great supporter of this journal's goals. He was at a 1988 meeting at the University of Michigan at which the Human Behavior & Evolution Society was born, and his presence was critical. Randolph Nesse, the principal advocate of forming such a society, asked Hamilton if he would be willing to serve as the society's first president. After some persuasion, he agreed, whereupon those in attendance elected him unanimously and enthusiasm for the project soared. "Once he was President," recalls Nesse, "I found I could ask anyone else to do anything, and upon learning that Bill was the President, they agreed."

As HBES's founding President, Hamilton never took a directive role. In years when he

PII: S1090-5138(00)00041-6

Fig. 1. Bill Hamilton lecturing at Harvard University, January 1978 (courtesy of Sarah Hrdy).

had to choose between a tropical field trip and attending the society's annual conference, HBES seldom won. But he was always supportive and often participatory. At the first annual meeting at Northwestern University in 1989, he and a panel of luminaries wrapped up the conference with a discussion of the field and its future, and in 1992, he delivered a memorable keynote address, with lovely visual representations of his current models of the dynamics of parasite-host coevolution, at the society's banquet at the University of New Mexico. On occasion, he must have been ambivalent about the society's enthusiasm for evolution-minded analyses of human behavior and for his theories, for in a 1996 preface to a reprinting of his first published paper (Hamilton 1963), which presented the quick version of his inclusive fitness theory, Bill wrote,

> ". . . one thing has not changed—this is my dislike for the idea that my own behaviour or behaviour of my friends illustrates my own theory of sociality or any other. I like always to imagine that I and we are above all that, subject to far more mysterious laws. In this prejudice, however, I seem, rather sadly, to have been losing more ground than I gain. The theory that I outline in the paper has turned out very successful. It certainly illuminates not only animal behavior, but to some extent as yet unknown but now being actively researched, human behaviour as well." (Hamilton 1996, p. 2)

Elsewhere in the same wonderful collection of reprinted classic papers and autobiographical musings, however, Hamilton (1996) reveals that he was keenly interested in the applicability of genetical theories to the evolution of human social behavior from the outset. As an undergraduate at Cambridge, he tried to persuade faculty from the Departments of Genetics and Social Anthropology to let him combine study of the two fields, and it was the refusal of

either department to countenance such a plan of study that inspired him to leave Cambridge and pursue his Ph.D. at the University of London. There he met a more welcoming (if only marginally more comprehending) reception from faculty in the Galton Laboratories and the London School of Economics, and we are all the beneficiaries.

W.D. Hamilton never attained the level of public recognition that has been bestowed on many lesser lights. In 1994, we were delighted to be in the audience when he was awarded an honorary D.Sc. by the University of Guelph, but we were surprised, and on further reflection appalled, to learn that it was his first such honorary degree. But of course, Bill wasn't terribly interested in the pursuit of public recognition. (At one Human Behavior & Evolution Society meeting, he suggested, only half in jest, that HBES might be well advised to remain a small secret society.) What he was interested in was the natural world and the world of ideas.

Still, fame caught up with him as the influence of his ideas spread. Hamilton's (1964) papers on the genetical evolution of social behaviour are among the most cited (if not necessarily read; Seger & Harvey 1980) in the behavioral sciences; and in 1993, his status as the leading evolutionary theorist of his generation was affirmed by his being awarded both the Crafoord Prize and the Kyoto Prize.

All of Bill's papers up to 1981 were reprinted, with substantial, witty introductory commentaries, in a collection (Hamilton 1996) that reveals the marvelous originality of his mind. A second, similar volume of his subsequent papers is scheduled to appear this year. Reread Hamilton—or read him for the first time, if you are one of those who cited him at second hand for fear of the math—and mourn our loss.

References

Hamilton, W.D. (1963) The evolution of altruistic behavior. *The American Naturalist* 97, 354–356.

Hamilton, W.D. (1964) The genetical evolution of social behaviour, I. *Journal of Theoretical Biology* 7, 1–16.

Hamilton, W.D. (1964) The genetical evolution of social behaviour, II. *Journal of Theoretical Biology* 7, 17–52.

Hamilton, W.D. (1996) *Narrow Roads of Gene Land, Volume 1, Evolution of Social Behaviour*. Oxford: Oxford University Press.

Seger, J., & Harvey, P. (1980) The evolution of the genetical theory of social behaviour. *New Scientist* 87, 50–51.

Martin Daly & Margo Wilson
March 10, 2000.