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Peter Frost, Ph.D., graduated from Université Laval in 1995 with a doctorate in Anthropology. Since then, Dr. Frost has been working as a contractor for an indigenous people research group, previously named the *Groupe D'Études Inuit et Circumpolaires* (*GÉTIC*) and now named the *Centre Interuniversitaire D'Études et de Recherches Autochtones* (*CIERA*). His work for them has included translations and revisions of academic papers, as well as a literature review on Labrador Inuit genetics. Peter Frost has recently published *Femmes Claires, Hommes Foncés. Les Racines Oubliées du Colorisme* (Presses de l'Université Laval).

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Open Peer Commentaries

Commentary on Steklis & Steklis (2011):

Graduate Interdisciplinary Programs for Training Students in Human Behavior, Evolution, and Development

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The most direct way to begin this comment is by responding to the questions posed by H. Dieter Steklis and Netzin G. Steklis (2011; hereafter S&S) at the end of their article.

- I *hope* that the advances described in the paper, especially regarding epigenetics of behavior, will allow new multidisciplinary initiatives. The examples lie outside my expertise, but it seems we are faced with the happy prospect of answering a new set of research questions using new theory and techniques.
- A formalized Graduate Interdisciplinary Program (GIDP) is certainly worth a try.
- Being the recipient of a cross-disciplinary doctorate (in political ethology) 20 years ago it is my experience that GIDP graduates will find it difficult to find placement in traditional departments. The same applies to many students who specialize in human ethology. Where are the jobs for them? I recommend making the negotiation of opportunities for graduates an integral part of the project.
- Regarding the name of the program, it might well be that a neologism will fare better than "human ethology", at least for a while. However, there are costs associated with abandoning that name, mainly resulting from

the break with historical continuity. Ethology is a Nobel Prize-winning field with origins in 19th century naturalism and a rich tradition spanning many countries.

The remainder of my comments concerns the last point.

I see nothing in the target paper that necessarily lies outside the purview of human ethology. The difficulty with keeping a biological approach to studying behavior outside the big-tent of ethology is that the field is so broadly defined (by Irenäus Eibl-Eibesfeldt, 1989, p. 4). If human ethology is the biological study of human behavior – and not some particular theory or body of knowledge – then the GIDP is clearly an example of that integrative field. And in fact the field has long drawn on, and sometimes contributed to "Anthropology, Ecology and Evolutionary Biology, Family Studies and Human Development, and Psychology" (S&S, p. 33).

This claim remains true despite the validity of some of S&S's criticisms. Yes, the limitations of what we knew about evolutionary mechanisms necessarily restricted the explanatory and heuristic power of ultimate theory until, say, the 1960s. But then sociobiology produced a surfeit of models that introduced a hypothesis-driven track of ethological research, still falling within the paradigm. Now we are learning that information can flow from the environment, including behavior, to the genes so as to alter their function. Even if this turns out to be a substantial flow compared to that in the genome-to-phenotype direction I don't see that this new information falls outside ethology. It is a case of the biology of behavior.

The same is true of what I think is the most exciting new approach discussed by S&S, the realization of individual and group differences in adaptive strategies, "adaptive plasticity" (p. 30). Longstanding ethological theory, in which most of us were trained, derived from Darwin and Lorenz. This held that the interesting aspects of behavior are species typical or universal. Now we are learning that the one species can contain many different individual and group adaptations. This is hardly news to psychologists or sociologists who have spent the last century documenting such differences, though usually not with an eye to adaptive function or the integration of other levels of causality. Although ethologists and many evolutionary psychologists might feel most comfortable with universals, venturing into the well-worn paths of other social sciences will not require giving them up or sacrificing any scientific principle. Studying different adaptive strategies does not abolish ethology but broaden its scope.

Despite all this, it is entirely reasonable to ask whether the name "human ethology" should be retained. The field is often understood to be relatively narrow – the tradition of methods and theories established by Lorenz, Tinbergen and von Frisch. Some social scientists have told me that ethology is all about imprinting. Moreover the name has been associated with controversies such as that between Lorenz and Lehrmann, discussed in the target article. If abandoning the title will help advance the substance of the science, then why not? One reason is that the debit is significant. I have already discussed the cost of breaking with the long and distinguished tradition of ethology, a tradition partially maintained by continuity of title. On the credit side the benefits might not be substantial. This becomes clear from consideration of the non-scientific causes of opposition to ethology and sociobiology, which are not fully described by S&S.

S&S are probably right that some critics have been concerned with what they saw as ethology's determinism, meaning a theory that does not incorporate all causal factors. But theoretical differences are not sufficient to explain the frequent intemperance of the criticisms. Tempers were raised by territorial and status conflicts, some of which can be observed occurring between other disciplines and theoretical camps. There was also a pronounced political dimension. And this does not reduce to Konrad Lorenz being a Nazi Party member in the late 1930s because the growing leftism and minority sensibility of social

scientists caused them to start the process of rejecting biological approaches in the 1920s or earlier, beginning with the New Social Science led by John Dewey and Franz Boas (C. Degler, 1991, pp. 200-202; Ruse 1989, p. 203). As late as the 1980s some of the most passionate opposition to sociobiology, for example, was ideologically inspired, such as by S. J. Gould (1981) and S. Rose, R. Lewontin, and L. Kamin (1984). These attacks were not prompted by aversion to names such as ethology or sociobiology. In a way it was a boundary dispute, though the defended academic territory was defined by the hegemony of political values within it.

Now it is true that for various reasons opposition to ethological thinking is fading. This bodes well for initiatives such as the proposed GIDP. Perhaps it is safe then to retain the 'E' word in its broad definition?

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Frank Salter, Ph.D., received his masters and doctorate at Griffith University in Brisbane (1984-1990), and was supervised in his graduate studies by Professor Hiram Caton. Dr. Salter's field of research can be described as political ethology or urban anthropology, which consists of applying the concepts and methods of behavioral biology (ethology, evolutionary psychology, evolutionary anthropology) to the study of political and other social phenomena, such as power, hierarchy, social control, ethnicity and nationalism.

Book Reviews

Beyond the Brain: How the Body Shapes the Mind

By **Louise Barrett**

Princeton University Press, 2011, 304 pp; ISBN 978-0-691-12644-9 [Hdbk, $29.95]

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Over the past decade, the world-wide media has heralded stories about animal cognition with unprecedented fanfaronade. Almost daily, the general public is inundated with so-called "breakthrough discoveries" concerning here-to-fore unimaginable feats of mentation in species ranging from apes to crows. But, just in case you missed it, here's a sampling. Chimpanzees are hunting with spears (Pruetz & Bertolani, 2007), grieving over their dead (Anderson et al. 2010; Biro et al. 2010), fashioning sex toys (Tierney, 2010), filming documentaries of their own lives (Walker, 2010), imagining what each other are thinking (Schmelz & Tomasello, 2011), negotiating collective actions through offers and counter-offers (Melis, Hare & Tomasello 2009), and even making nests for sticks that they are pretending to be baby dolls (Kahlenberg & Wrangham, 2010). Meanwhile, orangutans are playing charades (Cartmill & Byrne, 2007), and suffering from self doubt (Suda-King, 2008), crows are validating Aesop's fables (Bird & Emery, 2009), scrub jays are engaging in espionage (Dally, Emery & Clayton, 2009), parrots are predicting their own demise ("Alex & Me", 2009), elephants are painting self-portraits ("Elephant 'self-portrait'", 2006), and gorillas are using sign language to emote about their difficult childhoods ("Michael's story", 2008). Viewed from a distance, one might be forgiven for mistaking Pierre Boulle's satiric tale, Monkey