The Spectrum of Innateness

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Thus, the range of possible outcomes in the learning process appears to be narrowed by the organism itself. This narrowing, or canalization, is often attributed to genetic causes (cf. Waddington, 1957). In Marler's study, there is good reason to believe that genetic differences are behind the narrowing process, and I would suspect little disagreement among the contributors that the behavior is, in this sense, innate, although others have argued that innateness should not be tied to a genetic base (cf. Wimsatt, 1986).

However, canalization can also be caused by the environment. For example, Gottlieb (1991) has shown that exposure to a particular stimulus at one point in development not only makes the organism susceptible to that stimulus at later points in development but also buffers the organism against other stimuli. Thus, for any given behavior, one must investigate the causes of canalization rather than assume a genetic base. In human studies, one cannot freely engineer organisms and environments, and developmental histories are quite complex. It is, therefore, difficult to attribute canalization to either genetic or environmental causes. Does this render the notion innate without explanatory value, as some of the contributors argue?

I suggest that the sense of innate as "developmentally resilient" (Alcock, 1988, p. 32) or "developmentally buffered against certain kinds of experience" (Goldin-Meadow, 1982, p. 630) remains a viable notion—one that focuses the enterprise on specifying the range of environments in which language learning can take place. Although there are indeed limits on the process of language development (i.e., children raised without human interaction do not develop language), the process can proceed even in the face of radical deviations from the typical learning environment (e.g., children raised in the company of humans but not exposed to a conventional linguistic input can, on their own, develop a communication system with many of the properties of language). What researchers have shown in exploring this resilience is that language is central to the organism—so central that its development is virtually guaranteed, not necessarily by a particular gene but by a variety of combinations of genetic and environmental factors. It is, in this sense, innate.

References

