may produce no measurable behavioral response at all in isolation—for example, the odor and color components in innate biases against warning signals (*3*).

How do these fit into Partan and Marler's model for studying multimodal signals? In the text of the Perspective, they correctly describe such signals as those where the "multimodal stimuli evoke a response not elicited by the unimodal components," yet in the accompanying figure, they appear to assume that each component will produce its own response. The discrepancy may have arisen because Partan and Marler consider only the information content, or the "meaning," of signals. Although this point is fundamental to signal evolution, other selective forces are at work designing signals. Receiver psychology is fundamental to signal design and can select for extra components that do not provide information or provoke a response alone (*2*).

While wholeheartedly supporting their initial approach to the subject, I think that a wider consideration encompassing noninformative signal components provides a more useful framework for studying multimodal signals.

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**References and Notes**

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### *Response*

Rowe elaborates an interesting topic that we had room to mention only briefly. She discusses the point that certain signals, such as the aromatic pyrazines that are produced by some noxious, aposematic insects, have no apparent behavioral effect on birds when they are presented on their own, but are potent when presented multimodally, as we stated in our Perspective. Although pyrazines in solution at first elicit head-shaking (*1*), a common response to something distasteful, it is indeed remarkable that, alone, the scent of this widely used class of compounds elicits no obvious behavioral response from birds. That the odors do incur latent physiological responses is evident from their potentiation of responsiveness to other stimuli, such as color, as Rowe has shown in her work (cited in our Perspective). The well-documented fact that one stimulus can potentiate ("prime" or "sensitize") or block responses to another stimulus (*2*) is illustrated by our examples of modulation, in which the addition of a second component increases or decreases the effect of the first, as well as by emergence, in which the multimodal signal elicits a novel response.

With regard to the figure, we intended it to symbolize all possible responses, including those that are latent and not immediately apparent in behavior, as was stated in the text. The use of geometric shapes to symbolize different types of responses, such as the square and the circle, includes the possibility of "no overt behavioral response" as one such type.

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**References and Notes**

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2. Reviewed in P. Marler and W. J. Hamilton III, *Mechanisms of Animal Behavior* (Wiley, New York, 1966); N. J. Mackintosh, *The Psychology of Animal Learning* (Academic Press, London, 1974); E. O. Wilson, *Sociobiology* (Harvard Univ. Press, Cambridge, MA, 1975).

## CORRECTIONS AND CLARIFICATIONS

Reference 3 in the Research commentary "How calcium enhances plant salt tolerance" by E. Epstein (*Science*'s Compass, 19 June 1998, p. 1906) should have included "J. Li, Y.-R. J. Lee, S. M. Assmann, *Plant Physiol.* **116**, 785 (1998)."