

ACHIEVING PARITY: THE ROLE OF  
AUTOMATIC REINFORCEMENT

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The central insight of Horne and Lowe's article is the importance of the role played by the discriminative effects of one's speech upon one's self. Informed by this insight, Horne and Lowe provide a parsimonious and coherent interpretation of the behavior said to show equivalence relations, exploiting only established concepts of behavior analysis. I am enthusiastic about both the goals and accomplishments of the article and therefore will confine myself to suggesting an elaboration or refinement of one or two ideas lightly covered by the authors, particularly the role of automatic reinforcement in the shaping of the speaker's behavior (cf. Skinner, 1957, p. 164, 1979, p. 283; Sundberg, 1980; Vaughan & Michael, 1982).

Speech is special in that we stimulate ourselves in just the same way and at the same moment we stimulate others. This is a characteristic not entirely shared by sign language, because the appearance of a sign varies with the location of the viewer; typically the speaker and the listener view signs from opposite sides. Although subtle, this difference should impair the acquisition of naming in sign language relative to that of speech, because listener behavior is under the control of stimuli that the speaker can never quite reproduce. Moreover, we might expect more idiosyncrasies, or accents, among signers than among speakers.

The auditory feedback from one's speech can play a special role for a speaker who is already a competent listener. Horne and Lowe allude to the discriminative control that such feedback exerts over orienting behavior and note that this control contributes greatly to our understanding of performance in research on equivalence classes. They also refer to the potential reinforcing function that

such feedback can provide, assuming that the verbal stimuli already function as conditioned reinforcers. A stimulus may be automatically reinforcing if it has been paired with unconditioned reinforcers; thus, as Horne and Lowe observe, "the sounds and words uttered by parents may function as potent classically conditioned stimuli that have strong emotional effects on the child so that when she hears her own replication of these vocal patterns she generates stimuli that have similarly strong reinforcing consequences" (p. 198). Presumably, then, there may be a reinforcing effect of hearing one's self say, "Good job," because such expressions from parents are likely to serve a reinforcing function.

Horne and Lowe do not make much of this point, and rightly so: We would expect only a relatively few verbal stimuli to function as conditioned reinforcers. Moreover, presumably one quickly discriminates between the praise of another and one's own; the former is far more precious. The reinforcing effectiveness of verbal stimuli quickly becomes conditional on other variables.

However, the feedback from one's own speech plays a different sort of reinforcing function that I will argue is far more important in the shaping and development of verbal behavior. One's own utterances can shape and maintain one's behavior, not because of the specific stimulus properties of the verbal stimuli, but because of the *parity* of such stimuli with practices of the verbal community. That is, a speaker who is already an accomplished listener can detect when he or she conforms or deviates from typical verbal practices. Under most circumstances, people find parity of their speech with that of others to be reinforcing and deviations from parity to be punishing. The child who says "Tarry me!" does not have to receive explicit differential consequences from the verbal community when she eventually learns to utter "Carry me!" She knows instantly that she has

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achieved parity, because, as Horne and Lowe observe, her repertoire as listener typically precedes her repertoire as speaker.

Achieving parity is a conceptually awkward sort of reinforcer. It is not a stimulus. It is a particular kind of response, a recognition that one has conformed. It is difficult to measure, even to operationalize; thus, in our interpretations of the acquisition of verbal behavior it is seldom given the emphasis it deserves. But, although difficult to measure, the reinforcement is real enough. The effects of achieving, or failing to achieve, parity are particularly conspicuous in endeavors in which social reinforcement is clearly absent or irrelevant. The boy who tries to imitate the sound of a locomotive, an airplane, or a vacuum cleaner does not need differential feedback from his parents or siblings; the child who picks out the tune to "Mary Had a Little Lamb" on a xylophone may succeed without instruction or approval; the girl trying to learn how to wiggle her ears or to wink profits more from the mirror than from a tutor. In each case, the person already knows what the behavior should look like or sound like, and any behavioral variant that approaches parity is strongly reinforced.

Why is the achievement of parity reinforcing for children? First, it must be acknowledged that it isn't invariably reinforcing in all areas of conduct, as legions of mortified parents in restaurants and supermarkets can attest. However, one of the surest ways to optimize one's behavior in a novel situation is to do what others do, and children quickly learn to model their behavior after that of their elders. Nonconformity is often punished with staring, silence, or ridicule. The contingencies for achieving parity in verbal behavior are doubtless subtle, but the embarrassment of those who stutter, lisp, or suffer from other speech impediments suggests that they are nonetheless powerful.

The implications of this source of reinforcement are profound. A staple criticism of behavioral interpretations of the acquisition of language, by linguists and cognitive psychologists, is that the reinforcing practices of verbal communities do not seem to be ade-

quate to shape the many subtleties of verbal behavior that children learn to respect. The child who begs to be "tarried" may be carried many hundreds of times without protest; it is not the parents who insist that she get it right. Moreover, as Brown and Hanlon (1970) point out, parents tend to reinforce the content of children's utterances, not the syntax or pronunciation. Despite Moerk's subsequent reanalysis of their data, revealing many sources of reinforcement overlooked by Brown and Hanlon (Moerk, 1983, 1990), the critique is trenchant: Although people respect countless verbal conventions, most of us are unaware of many of them and are in no position to tutor others about them. For example, *donate* and *give* are roughly synonymous words. One might say, "I gave the money to the Jimmy Fund," or "I donated the money to the Jimmy Fund." But, although one might say, "I gave the Jimmy Fund the money," one is unlikely to say, "I donated the Jimmy Fund the money." Our language is replete with such anomalies. To argue that the verbal community explicitly shapes respect for such distinctions would be fatuous. The exquisite subtlety of our verbal repertoires is shaped by the contingencies of automatic reinforcement of which Skinner spoke; there are countless such contingencies and they are optimally arranged. To the competent listener, a deviation from parity is instantly detected; one need not wait for the lumbering machinery of social reinforcement to swing into action. Identifying units of listener behavior that are relevant to cadence, intraverbal frames, and the other dimensions of syntax remains a formidable problem, but one that is within the scope of the kind of interpretation pioneered by Skinner and extended here by Horne and Lowe. (See Donahoe & Palmer, 1994, pp. 312-319, for a fuller treatment of this theme.)

The foregoing analysis does not weaken Horne and Lowe's thesis, but it suggests that their interpretation of language development resorts more frequently than necessary to social reinforcers. Second, it suggests that a new member needs to be added to their family of effects of a speaker's behavior on him- or herself.