

A Fable

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It has recently been discovered that Daniel Defoe did not tell the whole story about Robinson Crusoe, probably because he did not think it would be believed. The fact is that through the operation of a kind of Well-sian time machine, Crusoe awoke one morning to find a modern jeep on his island. It was in good working order and had an inexhaustible tank of gasoline. Naturally he investigated it very carefully, pulling and pushing levers, twisting knobs, and pressing buttons. When he turned the ignition switch the motor started, and he hastily turned it off. He turned it on and off, again and again. Once, when he turned it on the jeep was in gear and jumped forward. Frightened, he quickly turned it off. On another day it did not jump. Eventually the jeep shaped and maintained everything Crusoe needed to do (not "to know!") to drive it skillfully over the unforested parts of the island. He "knew how to drive a jeep" simply in the sense that he did the right things at the right time.

When Friday came to the island, Crusoe taught him to drive. Since Friday did not speak English, Crusoe could only point to parts of the jeep and model behavior for Friday to imitate. He turned the ignition on and off, and Friday did the same and heard the engine start and stop. He turned it on, pressed the clutch, and put the jeep in gear; Friday eventually did the same and felt the jeep move. Eventually Friday also drove skillfully. Crusoe had not "communicated information" or "imparted knowledge"; he had simply modeled behavior which, when imitated by Friday, was reinforced by the action of the jeep. Friday then also "knew how to drive" but, again, simply in the sense of doing all the right things.

When the rescue ship arrived, Crusoe happened to be on the far side of the island and did not see it, but the captain met Friday, saw the jeep, and was curious about it. Friday started to show him how to drive. Since he

did not speak English, he could teach the captain only as Crusoe had taught him, by pointing and modelling.

Crusoe soon arrived and took over. He pointed to parts of the jeep, as he had done with Friday, but he could also call them by the nearest names in English, and use words like *twist*, *turn*, *push*, and *pull*. He could tell the captain what happened when things were done. He could say, for example, "When you twist the knob on the stem of the wheel, something in the wagon makes a noise, but don't twist it unless the stick with the knob on top is straight up." In other words, he could describe the contingencies of reinforcement maintained by the jeep, and by responding to those descriptions and instructions the captain came under the control of the jeep more quickly than Friday had done. Where Crusoe had *shown* Friday how to drive, he could *tell* the captain. Eventually the captain drove, not by responding to instructions, but as the jeep shaped and maintained his behavior. The captain then "knew how to drive," but again, simply in the sense of doing the right things at the right time. Nothing had passed from Crusoe to the captain by way of knowledge or information.

Crusoe also talked to himself when he was first exploring the jeep. He could say, as he would say to the captain, "when you twist the knob on the stem of the wheel, something in the wagon makes a noise." He was not telling himself to do something he had not already done (not "known!"); he was prompting his own behavior rather than priming it. His responses to his own descriptions of the contingencies fused with responses shaped by the contingencies, and the combination more quickly reached a useful strength.

Crusoe could also talk about the jeep when he was away from it. Lying in bed at night he could say, "The wagon moved only when

the thing in the front part was making a noise" and also, "It made a noise only when I twisted the knob." Putting these two responses together could have helped him to start the jeep more smoothly when he went to it again.

Lying in bed Crusoe could also see the jeep as he saw it when he was in it, although much less clearly. What he was doing is not as easy to say, in part because behavior analysts have not paid much attention to seeing in the absence of anything seen. In some extensive discussions on epistemology, Pere Juliá and I found it useful to treat sensing or perceiving simply as an early part of responding, as "responding up to the point of action." Seeing an object when the object is not present is doing again what was done when it was present. It can be done when no action follows and without making or using copies of what is seen. Crusoe could also feel himself twisting knobs and hearing noises up to the point of action.

Covert verbal behavior has the advantage over covert nonverbal behavior in that it can be more fully executed. Talking to oneself is a *kind* of action. If Crusoe had written an account of the contingencies, it would have been still more useful. Writing supports

verbal behavior as sketching supports visualizing.

Crusoe could also have given himself the kind of help he gave Friday. There are contingencies which strengthen a kind of self-imitation. If, when we move something on our desk, something else moves some distance away, we are likely to repeat the movement and wait for the effect, as if we were asking ourselves, "Did I do that?" If nothing else happens, we have shown the consequence to be adventitious. If the same thing happens, we have *confirmed* our movement of the remote object as an operant in the literal sense of making firm or strengthening. Similar behavior is sometimes seen in other primates. A move is made, an unusual consequence follows, and the move is immediately repeated. The contingencies of survival responsible for the evolution of such self-imitation, however, are very different from the operant contingencies. The superiority of self-composed descriptions of contingencies over self-imitation is presumably one of the reasons why languages have evolved, and why they are transmitted from generation to generation as social environments or cultures.