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## How Quine Perceives Perceptual Similarity

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The explanation of a child's discriminate responses to his environment turns on ascribing to the child a perceptual discrimination which counts certain things as more similar to one another than to some other thing. As Quine forcefully puts it:

If an individual is to learn at all, differences in degree of similarity must be implicit in his learning pattern. Otherwise any response, if reinforced, would be conditioned equally and indiscriminately to any and every future episode, all these being equally similar.<sup>1</sup>

Now for those determined to cleave to behaviourist canons, the problem is to use 'perceptual similarity' in explaining the subject's discriminating responses in a way which does not imply the existence of mental states and entities. What this really means is that the behaviourist must reconstruct the notion of 'perceptual similarity', purifying it of its mentalistic dimension. So long as physicalism is a reasonable position, and while we are awaiting and abetting the neurophysiological millennium, the behaviourist's project is of significant moment. Now in *Word and Object* Quine does not seriously attempt to provide behavioural criteria for a subject's perceiving similarities, and he provisionally permits himself the mentalistic idiom he avows finally to eschew. However, in *The Roots of Reference* Quine undertakes to smooth out that wrinkle in his behaviourist theory of language acquisition by trying to fashion (albeit incompletely) a concept of perceptual similarity which satisfies behaviourist strictures, and which is to assume the explanatory duty of perceptual similarity *ordinaire*. Should Quine succeed in the attempt,

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1 W.V. Quine, *The Roots of Reference*, (Open Court 1974) p. 19

it would constitute a significant advance in the behaviourist programme. What I shall do is show that Quine fails in the attempt.

The two basic elements in Quine's dispositional analysis of 'perceptual similarity' are (1) the notion of conditioned response and (2) the notion of receptual similarity. Perceptual similarity, on Quine's reconstruction, is to be understood not as relating those *entia non grata*, perceptions, but as relating episodes in a subject's body, and hence the shift to talk of receptual similarity. Of receptual similarity Quine says, "... this is mere physical similarity of impact on the sensory surfaces, regardless of behaviour."<sup>2</sup> Since the relation should properly be between *kinds* of episodes in the subject's body, Quine introduces the notion of 'receptual neighbourhood', using the mathematical notion of 'neighbourhood'. Thus he says:

Applying this idea to receptual similarity, let us attribute a property to all episodes in the receptual neighbourhood of an episode *a* when what we mean is that there is an episode *d* that is not receptually identical with *a* and is such that every episode that is receptually more similar to *a*, than *d* is, has the property in question.<sup>3</sup>

Quine is wary of trying to winnow out necessary as well as sufficient conditions for perceptual similarity. He takes perceptual similarity to be a dispositional concept, and consonant with his general views on dispositional concepts, he expects there is a physical tale to be told of the operations of the underlying mechanism, and that tale will take up the slack of the incipient *ceteris paribus* clause. But he is bent on propounding a sufficient condition, and what he offers is this:

IF (if a subject *M* has been conditioned to respond with *R* to all those episodes in the receptual neighbourhood of *b*, and to withhold *R* from all those episodes in the receptual neighbourhood of *c*, then *M* responds with *R* to those episodes in the receptual neighbourhood of *a*) THEN *a* is perceptually more similar to *b* than to *c* for *M*.<sup>4</sup>

For example, suppose a subject *M* is conditioned to respond with *R* in the presence of a red ball (episodes in the receptual neighbourhood of *b*) and to withhold *R* in the presence of a yellow rose (episodes in the receptual neighbourhood of *c*) and he then responds with *R* in the presence of a red rose (episodes in the receptual neighbourhood of *a*). The dispositional analysis allows us now to say that for *M*, *a* is perceptually more similar to *b* than to *c*. We can conveniently represent the situation on the chart below.

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2 *Ibid.*, p. 16

3 *Ibid.*, p. 17

4 *Ibid.*, p. 18

<i>Conditioning</i>		<i>Subsequent Behaviour</i>
Red Ball Episodes (e.g. b)	Yellow rose Episodes (e.g. c)	Episode of a Red rose (a)
R	-R	R

Once the subject is conditioned to respond not only to colour but to some other category of property, the analysis runs amok. Consider the situation described on the chart below:

<i>Conditioning</i>				
<i>Episodes</i>	Red ball(e.g. b)	Red shawl(e.g. c)	Yellow rose(e.g. d)	White rose(e.g. e)
<i>Behaviour</i>				
I	R	R	-R	-R
II	-S	-S	S	S

Suppose now that we present the subject with a red rose and, as must happen sooner or later, he responds with R *and* with S. Faithfully applying the behavioural condition for perceptual similarity yields this result:

(1) a is perceptually more similar to b than to d for M

and also:

(2) a is perceptually more similar to d than to b for M

Evidently a result of this kind beggars the explanatory utility of 'perceptual similarity'. Casually speaking, a is, *with respect to colour*, more similar to b than to c; and a, is, *with respect to shape*, more similar to c than to b. Since, however, properties and respects are quite as unacceptable to a philosopher of Quine's stripe as are perceptions, we cannot permit the luxury of such casual speaking. Yet without

some way relativizing the similarity to thereby ensure asymmetry<sup>5</sup> of 'perceptually more similar to', Quine's explanations of linguistic phenomena in terms of 'disposition to increase perceptual similarity', of 'determining the similarity basis', etc. are of uncertain value.

Apparently Quine is not unaware of the difficulty, nor yet is he willing to part company with his ontological principles by inserting a clause which relativizes similarity to respects. He claims to have a strategy by means of which he can achieve the same effect as a relativization to respects but with less cost. His suggested strategy consists in what Quine calls "spreading the similarity polyadically"; that is, by claiming, for example, that the episode of the red rose was perceptually more similar to episodes of the red shawl and red ball *jointly* than to the episode of yellow rose.

Revised accordingly, the statement of the sufficient condition now should read:

IF (if a subject M has been conditioned to respond with R to all those episodes in the receptual neighbourhood of  $b_1 \dots b_n$ , and to withhold R from all those episodes in the receptual neighbourhood of  $c_1 \dots c_m$ , then M responds with R to those episodes in the receptual neighbourhood of a) THEN a is perceptually more similar to  $b_1 \dots b_n$  than to  $c_1 \dots c_m$  for M.

The description of an episode a as 'in the receptual neighbourhood of  $b_1 \dots b_n$ ' implies that a is receptually more similar to  $b_1 \dots b_n$  than to some distinct episode c (or to some distinct conjunction of episodes  $c_1 \dots c_m$ ). Now it is not in the least obvious what it means to say that something is more similar to a certain *conjunction* of things (conjoint thing?) than to certain other conjunctions of things, and unfortunately Quine does not labour with a clarification.

Moreover, quite apart from that obscurity, the fact is that the asymmetry problem for 'perceptual similarity' is simply not solved by spreading similarity polyadically. In the light of the revised statement of conditions for perceptual similarity, (1) should be recast thus:

(1') a is perceptually more similar to (b and c) than to (d and e) for M.

But the said spreading does nothing to preclude this:

(2') a is perceptually more similar to (d and e) than to (b and c) for M.

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5 "asymmetry" is standardly defined for two-placed predicates, but the extension intended here should be obvious; i.e. asymmetry with respect to the last two arguments.

If the strategy Quine adopts here is to succeed in producing the same effect as relativizing perceptual similarity to respects, it must ensure the asymmetry of the concept of perceptual similarity. Plainly, however, it does not, as (1') and (2') reveal. Even granting, as Quine intends, that the dispositional concept of perceptual similarity is to serve primarily at the rudimentary level of language acquisition, the fact that it is not asymmetric means that it cannot begin to hold a candle to perceptual similarity *ordinaire*, and Quine's analysis must be reckoned a failure.

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