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Seven Strictures on Similarity

Similarity, I submit, is insidious. And if the association here with invidious comparison is itself invidious, so much the better. Similarity, ever ready to solve philosophical problems and overcome obstacles, is a pretender, an impostor, a quack. It has, indeed, its place and its uses, but is more often found where it does not belong, professing powers it does not possess.

The strictures I shall lay against similarity are none of them new, but only recently have I come to realize how often I have encountered this false friend and had to undo his work.

First Stricture: Similarity does not make the difference between representations and descriptions, distinguish any symbols as peculiarly 'iconic', or account for the grading of pictures as more or less realistic or naturalistic.[1]

The conviction that resemblance is the necessary and sufficient condition for representation is so deeply ingrained that the evident and conclusive arguments to the contrary are seldom considered. Yet obviously one dime is not a picture of another, a girl is not a representation of her twin sister, one printing of a word is not a picture of another printing of it from the same type, and two photographs of the same scene, even from the same negative, are not pictures of each other.

All that this proves, of course, is that resemblance alone is not enough for representation. But where reference has been established—where a symbol does refer to some object—is not similarity then a sufficient condition for the symbol's being a representation? Plainly *no*. Consider a page of print that begins with "the final seven words on this page" and ends with the same seven words repeated. The first of these seven-word inscriptions surely refers to the second, and is as much like it as can be, yet is no more a picture of it than is any printing of a word a picture of another printing.

Still, once pictures are somehow distinguished from other de-

1. See further, *LA I.*

notative symbols—and this must be by some other means than similarity—does not comparative naturalism or realism among pictures depend upon their degree of resemblance to what they represent? Not even this can be maintained. For pictures of goblins and unicorns are quite easily graded as more or less realistic or naturalistic or fantastic, though this cannot depend upon degree of resemblance to goblins and unicorns.

The most we can say is that among pictures that represent actual objects, degree of realism correlates to some extent with degree of similarity of picture to object. But we must beware of supposing that similarity constitutes any firm, invariant criterion of realism; for similarity is relative, variable, culture-dependent. And even where, within a single culture, judgments of realism and of resemblance tend to coincide, we cannot safely conclude that the judgments of realism follow upon the judgments of resemblance. Just the reverse may be at least equally true: that we judge the resemblance greater where, as a result of our familiarity with the manner of representation, we judge the realism greater.

Second Stricture: Similarity does not pick out inscriptions that are 'tokens of a common type', or replicas of each other.[2]

Only our addiction to similarity deludes us into accepting similarity as the basis for grouping inscriptions into the several letters, words, and so forth. The idea that inscriptions of the same letter are more alike than inscriptions of different letters evaporates in the glare of such counterexamples as those in Figure 1. One might argue that what counts is not degree of similarity

$$a \qquad d \qquad A$$

$$m \qquad w \qquad M$$

FIGURE 1

but rather similarity in a certain respect. In what respect, then, must inscriptions be alike to be replicas of one another? Some who should know better have supposed that the several inscriptions of the same letter are topologically equivalent, but to show how wrong this is we need only note that the first inscription in

2. See further *SA*, pp. 360–364, and *LA*, pp. 131–141.

Figure 2 is not topologically equivalent to the second, and that the second mark in Figure 3 is topologically equivalent not to the first but to the third.

$$a \qquad\qquad \tilde{a}$$

FIGURE 2

$$B \qquad\qquad B \qquad\qquad O$$

FIGURE 3

We have terrible trouble trying to say how two inscriptions must be alike to be replicas of one another—how an inscription must resemble other inscriptions of the letter a to be itself an a. I suspect that the best we can do is to say that all inscriptions that are a's must be alike in being a's. That has the solid ring of assured truth, but is hardly electrifying. Moreover, notice that to say that all a's are alike in being a's amounts simply to saying that all a's are a's. The words "alike in being" add nothing; similarity becomes entirely superfluous.

Third Stricture: Similarity does not provide the grounds for accounting two occurrences performances of the same work, or repetitions of the same behavior or experiment.[3]

In other words, what I have said about replicas of inscriptions applies also to events. Two performances of the same work may be very different. Repetitions of the same behavior, such as hitting a tennis ball against a barn door, may involve widely varying sequences of motions. And if we experiment twice, do the differences between the two occasions make them different experiments or only different instances of the same experiment? The answer, as Sir James Thomson stresses, is always relative to a theory[4]—we cannot repeat an experiment and look for a covering theory; we must have at least a partial theory before we know whether we have a repetition of the experiment. Two performances

3. See further, *LA IV*.

4. See "Some Thoughts on Scientific Method" in *Boston Studies in the Philosophy of Science,* Vol. II, ed. R. S. Cohen and Marx W. Wartofsky (New York, 1965), p. 85.

are of the same symphony if and only if, however unlike they may be, they comply with the same score. And whether two actions are instances of the same behavior depends upon how we take them; a response to the command, "Do that again", may well be the question: "Do what again? Swat another fly or move choreographically the same way?"

In each of these cases, the grouping of occurrences under a work or an experiment or an activity depends not upon a high degree of similarity but upon the possession of certain characteristics. In the case of performances of a Beethoven symphony, the score determines what those requisite characteristics are; in the case of repetitions of an experiment, the constitutive characteristics must be sought in the theory or hypothesis being tested; in the case of ordinary actions, the principle of classification varies with our purposes and interests.

Fourth Stricture: Similarity does not explain metaphor or metaphorical truth.[5]

Saying that certain sounds are soft is sometimes interpreted as saying in effect that these sounds are like soft materials. Metaphor is thus construed as elliptical simile, and metaphorical truths as elliptical literal truths. But to proclaim that certain tones are soft because they are like soft materials, or blue because they are like blue colors, explains nothing. Anything is in some way like anything else; any sounds whatever are like soft materials or blue colors in one way or another. What particular similarity does our metaphor affirm? More generally, what resemblance must the objects a term metaphorically applies to bear to the objects it literally applies to?

I do not think we can answer this question much better than we can answer the question what resemblance the objects a term literally applies to must bear to each other. In both cases, a reversal in order of explanation might be appropriate: the fact that a term applies, literally or metaphorically, to certain objects may itself constitute rather than arise from a particular similarity among those objects. Metaphorical use may serve to explain the similarity better than—or at least as well as—the similarity explains the metaphor.

5. See further *LA*, pp. 68–80.

Fifth Stricture: Similarity does not account for our predictive, or more generally, our inductive practice.[6]

That the future will be like the past is often regarded as highly dubious—an assumption necessary for science and for life but probably false, and capable of justification only with the greatest difficulty if at all. I am glad to be able to offer you something positive here. All these doubts and worries are needless. I can assure you confidently that the future will be like the past. I do not know whether you find this comforting or depressing. But before you decide on celebration or suicide, I must add that while I am sure the future will be like the past, I am not sure in just what way it will be like the past. No matter what happens, the future will be in some way like the past.

Let me illustrate. Suppose in investigating the relationship of two variables—say pressure and volume, or temperature and conductivity—for a given material, we obtain the data plotted as unlabelled dots in Figure 4. Where shall we expect the next point to be? Perhaps at a, since a is like all preceding points in falling on the same straight line. But b is like all earlier points in falling on the same curve (the broken line—and many others), and in fact *every* value of y where $x = k$ will be like all earlier points in falling on some—and indeed many a—same curve.

Thus our predictions cannot be based upon the bald principle that the future will be like the past. The question is *how* what is predicted is like what has already been found. Along which, among countless lines of similarity, do our predictions run? I suspect that rather than similarity providing any guidelines for inductive practice, inductive practice may provide the basis for some canons of similarity.[7]

Sixth Stricture: Similarity between particulars does not suffice to define qualities.[8]

Many a good philosopher has supposed that, given particulars and a relation of likeness that obtains between two particulars if

6. See further, *FFF,* pp. 72–81, and *LA,* pp. 164–170.

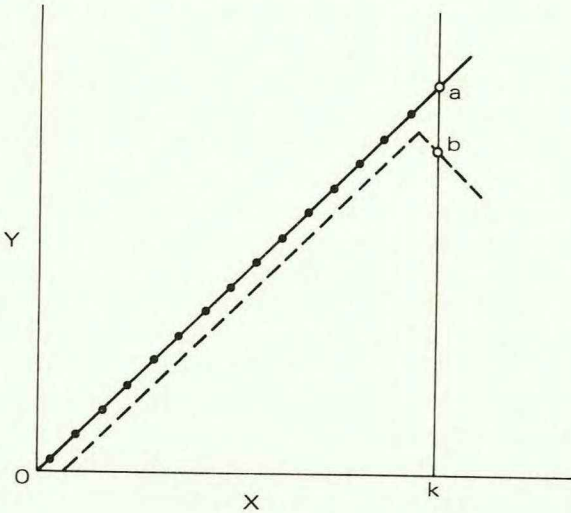7. See *FFF,* pp. 121–122.

8. See further *SA,* pp. 145–149.

FIGURE 4

and only if they share at least one among certain qualities, he
can readily define such qualities and so avoid admitting them as
additional undefined entities. If several particulars are all alike,
the reasoning runs, they will all share some one quality or other;
and qualities can thus be identified with the most comprehensive
classes of particulars that are all alike.

The flaw here went unnoticed for a long time, simply for lack
of logical scrutiny. Just how do we go from likeness between
two particulars to likeness among several? Several particulars are
all alike, we are tempted to say, if and only if each two of them
are alike. But this will not work. Each two among three or more
particulars may be alike (that is, have a quality in common)
without all of them having any quality in common. Suppose, for
example, we have three discs, the first one half red and half blue,
the second one half blue and half yellow, and the third one half
yellow and half red:

<div style="text-align:center">

rb   by   yr
1   2   3

</div>

Each two of the three discs have a color in common, but there is no color common to all three. Dyadic likeness between particulars will not serve to define those classes of particulars that have a common quality throughout.

Seventh Stricture: Similarity cannot be equated with, or measured in terms of, possession of common characteristics.

This is a rather more general stricture, underlying some of the earlier ones.

When, in general, are two things similar? The first response is likely to be: "When they have at least one property in common." But since every two things have some property[9] in common, this will make similarity a universal and hence useless relation. That a given two things are similar will hardly be notable news if there are no two things that are not similar.

Are two things similar, then, only if they have all their properties in common? This will not work either; for of course no two things have all their properties in common. Similarity so interpreted will be an empty and hence useless relation. That a given two things are similar in this sense would be notable news indeed, but false.

By now we may be ready to settle for a comparative rather than a categorical formula. Shall we say that two things a and b are more alike than two others c and d if a and b have more properties in common than do c and d? If that has a more scientific sound and seems safer, it is unfortunately no better; for any two things have exactly as many properties in common as any other two. If there are just three things in the universe, then any two of them belong together in exactly two classes and have exactly two properties in common: the property of belonging to the class consisting of the two things, and the property of belonging to the class consisting of all three things. If the universe is larger, the number of shared properties will be larger but will still be the same for every two elements. Where the number of things in the universe is n, each two things have in common exactly 2^{n-2} properties out of the total of $2^n - 1$ properties; each thing has 2^{n-2}

9. Of course as a nominalist, I take all talk of properties as slang for more careful formulations in terms of predicates.

properties that the other does not, and there are $2^{n-2} - 1$ properties that neither has. If the universe is infinite, all these figures become infinite and equal.

I have, indeed, been counting only first-order extensional properties. Inclusion of higher-order properties will change the arithmetic but not the argument. The inevitable suggestion that we must consider intensional properties seems to me especially fruitless here, for identifying and distinguishing intensional properties is a notoriously slippery matter, and the idea of measuring similarity or anything else in terms of number of intensional properties need hardly be taken seriously.

More to the point would be counting not all shared properties but rather only *important* properties—or better, considering not the count but the overall importance of the shared properties. Then a and b are more alike than c and d if the cumulative importance of the properties shared by a and b is greater than that of the properties shared by c and d. But importance is a highly volatile matter, varying with every shift of context and interest, and quite incapable of supporting the fixed distinctions that philosophers so often seek to rest upon it.

Here, then, are seven counts in an indictment against similarity. What follows? First, we must recognize that similarity is relative and variable, as undependable as indispensable. Clear enough when closely confined by context and circumstance in ordinary discourse, it is hopelessly ambiguous when torn loose. In this, similarity is much like motion. Where a frame of reference is tacitly or explicitly established, all is well; but apart from a frame of reference, to say that something moves is as incomplete as to say that something is to the left of. We have to say what a thing is to the left of, what it moves in relation to, and in what respects two things are similar.

Yet similarity, unlike motion, cannot be salvaged merely by recognizing its relativity. When to the statement that a thing moves we add a specification of the frame of reference, we remove an ambiguity and complete our initial statement. But when to the statement that two things are similar we add a specification of the property they have in common, we again remove an ambiguity; but rather than supplementing our initial statement, we

render it superfluous. For, as we have already seen, to say that two things are similar in having a specified property in common is to say nothing more than that they have that property in common. Similarity is not definitionally eliminated here; we have neither a definiens serving as an appropriate replacement for every occurrence of "is similar to" nor a definitional schema that will provide an appropriate replacement for each occurrence. Rather we must search for the appropriate replacement in each case; and "is similar to" functions as little more than a blank to be filled.

Furthermore, comparative judgments of similarity often require not merely selection of relevant properties but a weighting of their relative importance, and variation in both relevance and importance can be rapid and enormous. Consider baggage at an airport check-in station. The spectator may notice shape, size, color, material, and even make of luggage; the pilot is more concerned with weight, and the passenger with destination and ownership. Which pieces of baggage are more alike than others depends not only upon what properties they share, but upon who makes the comparison, and when. Or suppose we have three glasses, the first two filled with colorless liquid, the third with a bright red liquid. I might be likely to say the first two are more like each other than either is like the third. But it happens that the first glass is filled with water and the third with water colored by a drop of vegetable dye, while the second is filled with hydrochloric acid—and I am thirsty. Circumstances alter similarities.

But have I overlooked the residual and most significant kind of similarity—similarity between qualities as measured by nearness of their positions in an ordering? We are no longer speaking of concrete things, with their countless properties, but of qualities like hues or pitches, which are ordinarily treated as unidimensional. Is not such similarity free of variations resulting from different selections and weightings of relevant properties? Surely, pitches are the more alike as they differ by fewer vibrations per second. But are they? Or is middle C more like high C than like middle D? The question is argument enough. Similarity of so-

What, then, shall we say of the orderings of sensory qualities as mapped by psychophysicists on the basis of paired comparisons, fractionations, matching, and so forth? If many such methods yield closely congruent maps, relative nearness of position on such a map amounts to similarity under the general conditions and in the general context of the laboratory experiments, and has good title to be taken as a standard measure of similarity among the qualities in question. But can we test the validity of the methods used by examining how well similarity so measured agrees with ordinary judgments of likeness? I think there is no satisfactory way of stabilizing ordinary, as against laboratory, conditions and context to obtain judgments of sensory similarity that are qualified to stand as criteria for appraising the laboratory results. The laboratory results create rather than reflect a measure of sensory similarity. Like most systems of measurement, they tend to govern ordinary judgments at least as much as to be governed by them. And we have seen that the relative weighting of the different qualities of objects is so variable that even reliable measures of similarity for qualities of each kind will give no constant measure of overall similarity for the objects themselves.

Relativity, even volatility, is not a fatal fault. Physics does not stop talking of motion merely because motion is not absolute. But similarity, as we have seen, is a much more slippery matter. As it occurs in philosophy, similarity tends under analysis either to vanish entirely or to require for its explanation just what it purports to explain.

You may feel deprived, depressed, or even angry at losing one more handy tool from the philosopher's dwindling kit. But the rejection of similarity is not, as in the case of classes, rejection of some logical hanky-panky on grounds of philosophical distaste, nor, as in the case of intensions, modalities, analyticity, and synonymy, the rejection of some philosophical tomfoolery on grounds of utter obscurity. If statements of similarity, like counterfactual conditionals and four-letter words, cannot be trusted in the philosopher's study, they are still serviceable in the streets.

Supplementary Readings for Chapter IX
secondary to references within text and footnotes

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