Chapter 1

TYPES OF SIMILARITY

Similar things are similar in many senses, and in this chapter an attempt has been made by us to distinguish and classify them. This will ensure some degree of tidiness for our work, which is valuable. What is more valuable, however, is a prospect of some incidental insight into the nature of similarity itself.

1. The criteria for our purpose might well become available to us if, on an exploration at the level of language, we could discover two or more such predicates of similarities as would be mutually exclusive and, as, together, would cover all similarities and similarities alone. There indeed are examples elsewhere of required criteria of division having been obtained in the same way by philosophers. Take, for instance, the division of meaningful statements into those that are true and those that are false, or of sentences into those that are meaningful and those that are meaningless. Likewise, one divides actions into moral and non-moral ; the predicates 'moral' and 'non-moral' apply to characterise

actions alone; they are mutually exclusive and, together, they cover all actions. And there are many more such examples.

But can we obtain some criteria of this kind for our projected division of similarities? One, we suppose, cannot perhaps be certain a priori about that. That is, pending actual exploration of the words and phrases which are used to describe similarities, one is not perhaps in a position to know definitely that some of them would exclude each other, and at the same time, could be predicated of all similarities and similarities alone. At any rate, such criteria, in theory, are not without some advantages. Firstly, the results they might yield would be exhaustive, that is, the sub-classes of similarities obtained on their basis would cover all similarities. More, it would ensure a kind of purity also in the sense that nothing which is not an instance of similarity could ever usurp a room in the sub-classes of similarity.

Yet there is a limitation about the criteria because of which we are dissuaded from undertaking any search for it. The required predicates of similarity

which are to constitute them are, as we have said, to be mutually exclusive and applicable to all similarities and similarities only. But such predicates, if discovered, might prove to be too few to do justice to all the distinctions among similarities. One who has in mind especially the purity of the resulting sub-classes of similarities might be inclined to look for the required criteria at a metaphysical level, i.e. in the possible essence which is common to all instances of similarity. But the move is bound to be futile, which is obvious. For, the common essence, if there really is any at all, can serve only to unite similarities and not to distinguish their different types.

For our criteria, we are thus led to fall back primarily on what may be called the minimal constituents of similarity. Similarity, after all, is a relation holding between two or more terms. The terms may be differe different; likewise, the relation also may assume different forms. And our criteria for distinguishing various types of similarity will derive primarily from those differences. That is to say, we shall distinguish similarities after :

(1) the terms which are called similar,
and (2) the peculiarities of similarity-relation
itself.

This method will have certain practical advantages. Firstly, the range of terms as such as also that of relations as such have already been sought to be organised by philosophers under different schemes of classification. So, naturally, in attempting to divide similarities into various types in terms of criteria derived from the consideration of the relation which is similarity and the range of its objects, we shall have ready at hand some valuable working model to guide us. Secondly, the method has already been put to application by some similarity-philosophers. Such philosophers include, among others, R.W.Church[1] and D.J. O'Conner[2] who follows Church in the matter. Our special indebtedness to these philosophers will be clearly manifest all through our discussion below. We shall draw liberally upon the results of their investigation.

1 Vide An Analysis of Resemblance, George Allen & Unwin, London.
2 Vide "On Resemblance", Proceedings of the Aristotlean Society, 1945-46, pp.47-76.

I

1. The terms of similarity-relation may broadly be divided into

(a) those that may be called <u>particulars</u>, <u>and</u> (b) those that may be called <u>non-particulars</u>.

Particulars are supposed to include objects (e.g. 'the books on this table', 'faces of human beings', etc.), and events (e.g. earthquake, headache, marriage, etc.). Non-particulars, on the other hand, are being taken to include qualities (e.g.heavy, square, red, etc.), and relations (e.g. below, parallel, being brother of, etc.). Accordingly, we can divide similarities into

(1) those that hold between particulars, <u>and</u> (2) those that hold between non-particulars.

The second, i.e. (2), is called by O'Conner <u>simple</u> or <u>underivative</u> similarities. As opposed to this, the first class of similarities, on the other hand, is called <u>complex</u> or <u>derivative</u>. The epithet 'complex' is not inappropriate at all. For, an object (or event), being nothing more than its qualities, the similarity between one object (or event) and another may well be understood in terms of qualities, i.e. as similarity between one set of qualities and another set of qualities.

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2. Simple (or underivative) similarity is more fundamental than the complex (or derivative) similarity. The latter has been said to hold between two events or between two objects. So, for one who would not identify object and event, i.e. would believe that they differ at the level of ontology, there may be two types of complex similarity :

(1.1) one holding between two objects,

(1.2) the other holding between two events.

Similarity, simple (underivative) similarity, which has been said to hold between qualities or relations, becomes distinguishable into two types, that is,

(2.1) one holding between qualities,

(2.2) the other holding between relations.

We may, following O'Conner, call :

(1.1) similarity of objects,

(1.2) similarity of events,

(2.1) similarity of qualities,

(2.2) similarity of relations.

Let us now go into the details of these four types of similarity, that is, among other things,

(a) into their possible rationale,

(b) into their possible ramifications,

and(c) into their possible peculiarities.

3. To start with (1.1), i.e. <u>similarity of objects</u> and (1.2), i.e. <u>similarity of events</u>.

3.1. Are they truly distinguishable? This would, naturally, depend on two things, namely :

(i) whether objects are really distinct from events; or only same things under different names;

<u>and</u> (ii) whether similarity holding between <u>objects</u> has any peculiarity which is not present in that holding between <u>events</u>.

(<u>a</u>) The word 'object' has often been taken in for employment in certain special senses.[3] Likewise, the word 'event' also has come to assume certain special senses in the writings of some philosophers.[4] But while we talk of objects and events here, we do not have any of such special senses in mind. We take them to stand for what ordinarily are called objects and events. Thus, for us, as exemplified already, this book, the wooden pencil, the candle stick and such like are objects, while, an earthquake, a flash of lightning and such like are events.

3 E.g. Wittgenstein.
4 E.g. Russell and Whitehead.

Understood in this way, objects and events may be said to differ from each other in certain respects which appear quite basic.

John Wisdom[5] in his Problems of Mind and Matter distinguishes events from facts.[6] Using that as a model we may perhaps say that objects are at a time, while an event occupies a period of time. The plausibility of this distinction may be said to derive from the fact that by it we can well account for why we can speak of an event (e.g. an earthquake) being of a shorter or longer duration, though we cannot, in the same way, say that an object (e.g. this table) is of a shorter or longer duration.

Analogously, the difference between object and event may also be defined by reference to their respective relations to space. Objects are extended in space and are also localisable in space. But this is not entirely true of all events. Take, for example, such events, as are exemplified by our mental acts, e.g. a fit of anger, a toothache, and the like. They are none of them spatially extended like objects;

5 See p.31 (Paper back edition, 1963).
6 Fact, however, for Wisdom, is not the same as what we call object.

though, like objects, they may only be localisable in the space occupied by the body of the person who is angry or in the space occupied by the teeth which is aching.

From the above two distinctions between objects and events follows as a corollary a third distinction. In the language of O'Conner it may be stated as follows :

> ...the spatio-temporal characteristics of events are intrinsic to the natures of the events in a way in which the corresponding characteristics of objects are not intrinsic to their natures. Although we may in defining the essence of an object exclude from the difinition of its relational properties, we cannot do this in the case of events. We must define events primarily by their relational properties.

(b) This third distinction is, by itself, interesting. However, it assumes some special importance for us. For, in our eyes, it tends to provide a basis for an affirmative answer of a kind to (ii) above, in other words, to say that there is a significant difference between similarity of objects on the one hand and similarity of events on the other. The difference is this. The definition of the similarity that holds between events must comprise description

7 Vide "On Resemblance", Proceedings of the Aristotlean Society, 1945-46, p.71. (Italics ours).

of the common relational properties of the events; but the definition of the corresponding similarity between objects may well go without the description of the common relational properties of the objects.

3.2. We have mentioned above certain points which distinguish objects and events from each other. These points are doubtless significant enough to provide a rationale for the alleged distinction between similarity of objects and similarity of events. Nonetheless, they do not mark any absolute separation between events and objects; that is, do not exclude all possibility of their overlapping. As recognised by O'Conner, there indeed are certain border-line cases which may be viewed both as events and as objects. To follow O'Conner's example of "flashes of lightning" and that of "Candle Flame". The former are normally called events; however, if they last for some hours one would well be inclined to call them objects. Correspondingly, the latter is commonly regarded as an object, though, from a point of view, there would be nothing wrong in treating it also as a series of events. However, examples of

such border-line cases, according to O'Conner, tend really to prove

> ... that there are a very large number of general properties common to objects and events ...

Recognition of this fact that events and objects may share common properties has an important implication. It leaves us with one more kind of similarity under (1), (i.e. similarity of particulars or derivative similarity). This new kind of similarity is that between events and objects. Thus we have now in all three kinds of derivative similarities, viz.

(1.1) similarity of objects,

(1.2) similarity of events,

and (1.3) similarity between objects and events.

4. (1.1), (1.2) and (1.3) above are examples of what we have chosen to call derivative (or complex) similarity. As distinguished from them, (2.1), i.e. similarity of qualities, and (2.2), i.e. similarity of relations, have been classed as examples of underivative (or simple) similarities. O'Conner has

8 Ibid, p.70

two alternative expressions to designate them. He calls (2.1) material similarity and (2.2) formal similarity.[9] Let us now get into a discussion of the two.

4.1. Qualities are often distinguished, after Locke, as primary and secondary. Primary qualities are said to comprise solidity, extension, motion, rest and number; while all qualities besides these, e.g. colours, sounds, smells, etc., are said to be secondary. Primary qualities are supposed to be objective in the sense of being inseparable from the objects and ~~xxiuxiix~~ existing actually in them. Secondary qualities, on the other hand, are supposed to be subjective and separable from their objects : they are said to be foisted on the objects by the perceiving minds in which they truly exist.

This distinction of primary and secondary qualities is not universally accepted. As we know, it is denied by many, e.g. Berkeley; Anyway, we shall not go into the rightness of otherwise of the denial. In fact, the distinction by itself, or whether it is valid or not, is not at all a direct concern or ours here. However, assuming hypothetically that the dis-

9 Ibid, p.58.

tinction holds good, what we want to enquire is whether or not from it we can proceed to make a corresponding distinction in the range of the similarities of qualities. That is, we want to see whether or not we can speak of (i) similarity holding between primary qualities and (ii) that holding between secondary qualities.9(a)

Take the latter, that is, the secondary qualities. We may indeed talk of similarity between them. Nothing seems to come in the way. Consider, for example, the following expressions. 'Her complexion resembles that of her mother', 'The two fruits taste alike', 'The smell of lemon grass resembles the smell of lemon', and so on - these are common in our speech. There is indeed nothing wrong about them.

But the case of primary qualities is very different. We seem debarred from talking about them in terms of similarity or its equivalents. Similarity-language does not seem to be appropriate at all for them. For one does not normally say, e.g. "The number of children in this room is similar to the number of children in that room", and the like. What one would

9(a) As far as we understand, there is nothing particularly wrong about such an hypothetical enquiry. However, in case it appears so to anyone, he may treat the enquiry on our part as non-existent; that will not, in any way, prejudice the central issues of our discussion.

ordinarily say instead is rather "The number of children in this room is the same (or is identical with) as the number of children in that room", and the like. Primary qualities are talked of in terms of sameness; and similarity and sameness are not the same.

Primary qualities, then, cannot be said to be similar in the ordinary sense, i.e. in the sense in which we speak of the similarity of secondary qualities. But can there be any special sense in which we can talk of the similarity of primary qualities? O'Conner seems inclined to admit one.[10] It is suggested to him by Russell[11] who speaks of equivalent or equal sets being similar, thereby meaning by similarity their numerical identity.

But is this, strictly speaking, to count as an example of similarity of primary qualities at all? We don't know. O'Conner seems somehow wrong on this point. The similarity spoken of by Russell between two sets, say, S^1 and S^2, is not exactly the simila-

10 Ibid, p.56.
11 Vide Introduction to Mathematical Philosophy, Published by Simon and Schuster.

rity that may be said to hold between the number of S^1 and the number of S^2, i.e. between a primary quality of one and that of the other. It is rather to be construed as the similarity holding between two sets, i.e. between S^1 and S^2 (in respect of number); but sets are sets, and not primary qualities. So that, similarity of sets spoken of by Russell is, properly speaking, not an example of similarity of the so-called primary qualities. To say this is perhaps enough. We need not commit anything more as regards the nature of the sets.

But why is it that the primary qualities (number, motion, solidity, and the like) are impervious to description in similarity-language? Why are we prohibited from saying that they resemble or are similar to each other? What, exactly, is peculiar about them vis-a-vis secondary qualities which, contrarily, are well amenable to being called similar? Finding an explanation of this or making an attempt in the direction, we suppose, may not be altogether irrelevant or uninteresting.

As opposed to the secondary qualities, the so-

called primary qualities are essentially (or predominantly) quantitative, in the sense that they represent various quantitative dimensions of objects and events. In fact, for one, who looks upon quality and quantity as separate categories, the phrase 'primary quality' is a total misnomer. Being modes of quantity, the relations are amenable to being read in terms of what is called exact identity. There is indeed an apparatus to ensure this; it is the apparatus of counting, measurement, etc. The concept of similarity does not really fit in at all as a frame for understanding them.

Similarity is essentially a qualitative concept ; as a descriptive category its application is confined to the relations of qualities (it is pointless to limit them by calling secondary) possessed by objects or events. In talking about relations of objects and events, similarity-language provides a qualitative substitute for (or a supplement to) the quantitative language of exact identity.

The so-called qualities known to us as primary since Locke are, in fact, to be treated as the

quantitative or numerical aspects of objects to which they are said to belong. They come to be confused in the minds of philosophers with qualities perhaps because of grammatical illusion. The illusion seems to arise from the fact that the uses of the words designating the so-called primary qualities, e.g. 'solid', 'extended' etc. in our language are grammatically non-different from those of what are to count as quality-words per excellence, e.g. 'blue', 'benevolent', 'sweet', 'cold', etc. We say, 'The sky is blue', 'Sugar is sweet', 'Ice-cream is cold', and so on; and likewise, we also say, 'The table is square' , 'Mercury is heavy', 'The sun is large'. The grammatical status of 'square', 'large' or 'heavy', is absolutely alike that of 'blue', 'benevolent', 'sweet' or 'cold'. The so-called primary qualities, insofar as they are amenable to counting and measurement, are, for that reason, to be fitted to thinking in terms of the concept of exact identity, which, as we have said, is not the same as similarity or its equivalents. The primary qualities are, in fact, to be kept out of the range of similarity-language; which is to mean that for us

there is no such sub-class of (2.1), i.e. similarity of qualities, which might be called similarity of primary qualities.

We are, however, aware of a possible attempt to restore similarity for the so-called primary qualities in an indirect way. It consists in understanding the similarity of the so-called primary qualities as that between sets of relations and, thereon, in subsuming it as a particular sub-class under (2.2), i.e. similarity of relations. The obvious base of this attempt is the metaphysical position that the so-called primary qualities "are reducible to relational characteristics"[12] of things. It is argued,

> Consider ... the so-called primary qualities of matter. Is the position of a thing logically separable from its relations to other things, or its shape thinkable apart from the relations which the parts of its surface bear to each other and to the objects which bound it? Motion, velocity, mass are in a similar position. I am not sure that I ought not to go further and say that all the so-called primary qualities are reducible to relational characteristics ...[13]

12 See, e.g. A.C.Ewing, Idealism, Mathuen & Co. Ltd., London, (1933), p.190.
13 Ibid.

But the idea that the so-called primary qualities are relations seems, in fact, wrong; so the question of subsuming the so-called similarity of the former to that of the latter cannot arise.

It may well be the case that some, (e.g. position, mass, velocity, etc.) or even all, the so-called primary qualities are not thinkable except in terms of the relational characteristics of the objects. But what does that tend to indicate? Only that awareness of the so-called primary qualities of an object depends on the awareness of its relational properties. And nothing more. It provides no ground whatever for reducing to the so-called primary qualities to relations.

The assimilation, for us, is, in fact, impossible, because the difference between the so-called primary qualities and relations is, on our analysis, a bit too basic. The former, as we have said, are impervious to characterisation in terms of similarity epithets. This is not true of the latter. Similarity does hold among relations, and we do talk of relations being similar.

4.2. Thus, as we do not admit any division of qualities into primary and secondary, we are not in a position to make a corresponding division in the similarity of qualities, namely, that holding between primary qualities on the one hand, and that holding between secondary qualities on the other. Nonetheless, qualities do not present a world which is homogeneous. They are amenable to division in other ways which are not insignificant. Thus, in the first place, we can distinguish qualities which are sensory and those that are non-sensory. The former are divisible into simple and complex, and so are the latter. This way, we get four types of qualities, namely

(a^1) simple sensory qualities, (e.g. milk-whiteness, visibleness, tangibleness, equality, squareness, etc.)

(a^2) complex sensory qualities, (e.g. eating opium, playing golf, etc.)

(b^1) simple non-sensory qualities, (e.g. pain, pleasure, etc.)

(b^2) complex non-sensory qualities, (e.g. our sentiments, etc.);

and, corresponding to them, naturally, four types of similarity of qualities under (2.1), namely,

(2.1a^1) similarity of simple sensory qualities,

(2.1a^2) similarity of complex sensory qualities,

(2.1b^1) similarity of simple non-sensory qualities,

(2.1b^2) similarity of complex non-sensory qualities.

Of these four types, (2.1a^2) and (2.1b^2) are not so much a source of any special philosophical problem. The former is understandable in terms of (2.1a^1) and the latter in terms of (2.1b^1). However, this cannot be so said of (2.1a^1) and (2.1b^1). They have, in philosophy, become a source of some special problems and that is on account of the simplicity of the qualities between which they hold. The qualities being simple, one does not, naturally, find anything common to them by which their similarity might be defined. And this leads some philosophers, e.g. Austin[14], among others, to maintain that simple qualities are not similar in any ordinary sense; so that 'similarity'

14 Vide "The Meaning of a Word", Philosophical Papers, Oxford University Press (1970)

of any species of qualities which are simple would be a misnomer. The view is interesting. However, we shall undertake the discussion of it only in a more appropriate context hereafter.[15]

5. We may now turn to (2.2), that is to say, the similarity of relations.

There is indeed a bit of oddity about the similarity holding between relations vis-a-vis those we have so far considered, i.e. similarity of objects, that of events or of qualities. For, similarity being itself a kind of relation, in talking of the similarity of relations we are in fact talking about a kind of relation among relations and not among entities which are not relations. But in what sense can there subsist relation among relations? Relations, obviously, are not related to one another in the way objects or qualities are. If the latter are said to be related materially, the relation between the former

15 Vide infra chap.4 (Similarity and Language), pp.164-173.

is to be called a formal one. Which means in being concerned with similarity of relations, we are concerned with what may be called in the language of O'Conner[16] 'formal or structural' similarity as opposed to the 'material' similarity holding between objects or qualities.

Anyway, let us get into our task of distinguishing the various types of similarity of relations.

Above, we have distinguished similarities of particulars into different kinds according to the different types of particulars between which they hold. The same model has been followed by us also in distinguishing the different types of similarities holding between qualities. So, if we have to carry this principle of division further on to the similarities of relations, what naturally becomes incumbent on us is to base ourselves on a dependable chart which sorts out the different types of relations. And the chart, we shall accept, is the one which has been worked out by Russell.

16 Vide "On Resemblance", Proceedings of the Aristotlean Society, 1945-46, p.58.

5.1. The main principle by which Russell distinguishes various kinds of relations bears on two very fundamental properties of relations. These properties are transitiveness and symmetry. Relations may or may not possess either of these two properties. Accordingly, follow six different types of relations to which Russell[17] gives the following names :

(1.a) Symmetrical relation,

(1.b) Non-symmetrical relation,

(1.c) Asymmetrical relation,

(2.a) Transitive relation,

(2.b) Non-transitive relation,

(2.c) Intransitive relation.

(1.a) A relation which is such that xRy always implies yRx is called (1.a), i.e. symmetrical. The relations spouse, equal to, and such like are examples of symmetrical relations.

(1.b) A relation which does not possess symmetry in this sense is to be called (1.b), i.e. non-symmetrical relation. E.g. brother, sister, etc.

17 Vide Introduction to Mathematical Philosophy, Chap.V; Principles of Mathematics, Chap.XXVI; also Our Knowledge of the External World, pp.56-59. In this connection see L.S.Stebbing, A Modern Introduction to Logic.(Harper Torchbook), pp.166-169.

(1.c) Relations which possess the opposite property of symmetry, that is, which is such that xRy always excludes yRx, is called asymmetrical relation. E.g. wife, husband, nephiew, son, and so on.

(2.a) A transitive relation is such that whenever it occurs between A and B and also between B and C, it holds between A and C. Example, before, after, greater, above, and the like.

(2.b) A relation is non-transitive whenever it is not transitive. For example, brother, sister.

(2.c) An Intransitive relation is such that if it holds between A and B and also between B and C, then it never holds between A and C. For example, father, one year older, and the like.

Now we may, corresponding to the six varieties of relations, distinguish six types of similarities of relations which are as follows :

(2.2a^1) Similarity of symmetrical relations,

(2.2a^2) Similarity of non-symmetrical relations,

(2.2a^3) Similarity of asymmetrical relations,

(2.2b^1) Similarity of transitive relations,

($2.2b^2$) Similarity of non-transitive relations,

($2.2b^3$) Similarity of intransitive relations.

5.2. It is desirable that we define precisely each of these six types of similarity of relations. The task is by no means easy to accomplish; and we are not sure at this stage whether we are really capable of that. For, there remains something to be done at a more basic level. It is to make an attempt towards defining the similarity holding between relations as such, of which the six types, distinguished by us, are but six variants. We shall do it, once again, following Russell.[18]

In defining similarity of relations as such Russell takes as a case of it the similarity holding between the relation of one place to another, say, of a country and that of their correlates, say, on the map of the country. In more concrete terms, it is the similarity holding between the relation of Calcutta

18 Vide Introduction to Mathematical Philosophy, Chap.VI., Published by Simon and Schuster.

to Darjeeling and that between the two corresponding positions on the map of West Bengal. The relation on either side is a space-relation; so that, in defining similarity of relations, which Russell does, in fact, is to define similarity of two space-relations. Both the relations are of the same logical type, and so their similarity is one between relations that are 'homogeneous'.[19]

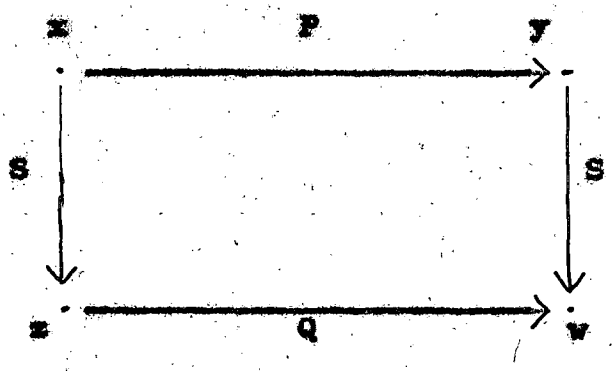
But how, precisely, is this similarity defined by Russell? The two relations are said to be similar when there is between them a one-one relation such that its domain and converse domain are respectively the field of the one and that of the other. In Russell's own language :

> We may define two relations P and Q as "similar", or as having "likeness", when there is a one-one relation S whose domain is the field of P and whose converse domain is the field of Q, and which is such that, if one term has the relation P to another, the correlate of the one has the

19 Russell is not particular about defining similarity holding between heterogeneous relations, on the ground that "...the notion of likeness is not very useful as applied to relations that are not homogeneous.", Ibid, p.53.

relation Q to the correlate of the other, and vice versa.[20]

The position is explained by Russell in the lines quoted below with the help of this figure.



Let x and y be two terms having the relation P. Then there are to be two terms z, w, such that x has the relation S to z, y has the relation S to w, and z has the relation Q to w. If this happens with every pair of terms such as x and y, and if the converse happens with every pair of terms such as z and w, it is clear that for every instance in which the relation P holds there is a corresponding instance in which the relation Q holds, and vice versa ...[21]

20 Ibid, p.53-54.
21 Ibid, p.54.

And this is what, Russell says, he desires to secure by his definition of similarity of relations.[22]

II

6. Our classification of similarities has so far been based on a reference to the various kinds of terms between which they may be said to hold. It is now to be carried further forward by us in accordance with the one other way we have mentioned,[23] *viz.* in reference to certain relevant peculiarities of similarity.

6.1. Similarity is a relation itself. On the other hand, we have, after Russell, distinguished above relations into the following kinds, namely :

22 Ibid. p.
23 *Vide* above, p.3.

(1.a) Symmetrical relation,

(1.b) Non-symmetrical relation,

(1.c) Asymmetrical relation.

(2.a) Transitive relation,

(2.b) Non-transitive relation,

(2.c) Intransitive relation.

So, in classifying similarities a very natural possibility for us to explore is whether we can read in similarity (which is a relation) each or any of the above six types of relations. That is, whether we can, having the six types of relations in mind, interpret similarity in terms of one or more or each of them.

Similarity is commonly looked upon as an instance of symmetrical as also of transitive relation. And this holds good no matter whether the similarity is material or formal.

Take two particulars, a and b which resemble materially in being, say, green. The similarity of a and b, in this case, is obviously symmetrical; because aRb here is such that it implies bRa. Take

a second example involving three particulars a, b and c which resemble, again, in being green. Here also, as in the preceding example, the similarity of a, b and c is symmetrical. For, while aRb implies bRa and bRc implies cRb, aRc implies cRa. And the similarity is transitive also, because aRb and bRc imply aRc. This can be illustrated in the like manner also in respect of the common cases of formal similarity, as for example, that between two or more classes or between two or more relations.

But are all similarities symmetrical and transitive? Or, is it that there are also instances of similarity which are to be characterised in opposite way, i.e. as asymmetrical and intransitive? Let us look into the matter. On it will depend whether we are entitled to distinguish, namely :

(3.1) symmetrical-transitive similarity,
and (3.2) asymmetrica-intransitive similarity.

6.2. There indeed are cases where it seems possible to categorise similarity as instances of

asymmetrical-intransitive relation. We are going to mention below two such cases, remaining non-committal about whether or not there are more.

(a) The first is to be found in circumstances in which, among other things,

(i) the terms of similarity are at least three,

(ii) incidents of similarity are, at least, two, and (iii) we compare the similarities in terms of words signifying degree, i.e. in terms of such words as 'more', 'less', and the like.

Take colours, say, yellow, orange, and red. Suppose one says, 'Yellow is similar to orange, orange is similar to red, and red to yellow'. This undoubtedly is a description of a similarity which is symmetrical and transitive. For, obviously, it accords with the form of symmetrical relation mentioned above, viz. aRb implies bRa and bRc implies cRb, as also with that of transitive relation, viz. aRb and bRc imply aRc.

But the situation becomes different as we bring in the comparison of the three colours in respect of their degree, and, accordingly, introduce words like 'more' or 'less' in our statement. That is, as soon

as we recast our statement to read as

(i) 'Yellow is more similar to orange that it is to red',

or as (ii) 'Red is less similar to yellow than it is to orange',

or in similar other ways. Neither fulfils the requirement of symmetry or of transitiveness. Both tend to fit in, on the other hand, exactly with the contrary of it. For, in the first place, if we say (i) and (ii) then we cannot say 'Orange resembles yellow more than it resembles red'; nor can we say that 'Orange is less similar to red than it is to yellow'. And this analysis will cover all like examples. A few instances. 'The first son resembles his father more than the second son', 'The first daughter resembles her mother less than the second daughter', 'India is more similar to Greece than to England', 'Orange is less like blue than it is like yellow," and so on.

(b) The second kind of similarity which is perhaps understandable as an instance of an asymmetrical-intransitive relation is what is called 'family resemblance' by Wittgenstein.

This kind of resemblance is said to hold, for example, among 'games' or 'members of a family'. It excludes anything being possessed in common by all the members of a class; it is said to consist rather in 'similarities overlapping and criss-crossing', 'overall similarities', 'similarities of detail',[24] and the like. This particular brand of similarity, because of its obvious peculiarity, has come in naturally to trigger off some new philosophical interest in the concept of similarity. It has, in fact, figured quite prominently in numerous philosophical discussions in recent years.

Anyway, let us explain our point of looking at 'family resemblance' as a possible instance of asymmetrical-intransitive relation. We may do it this way.

Take A, B and C who are members of the same family. Suppose that A resembles B in respect of x, and B resembles C in respect of y. We say that the three resemble in a sense. But this is not a case in which

24 Vide Philosophical Investigations, Tr. G.E.M. Anscombe, Basil Blackwell, Oxford, (1963), p.32.

we can say that similarity that holds between A and B holds also between A and C.

So, we have ground to confirm our envisaged distinction of similarities into

(3.1) those which are symmetrical-transitive, and (3.2) those which are asymmetrical-intransitive.

6.3. In (a) above we have mentioned two sentences, viz.

(i) 'Yellow is more similar to orange than it is to red',

and (ii) 'Red is less similar to yellow than it is to orange'.

The sentences can hardly make a claim to any absolute singularity for themselves. For, obviously, in language there are many more such sentences. Indeed many, many. A few examples.

(iii) 'Two dogs resemble each other more than they resemble a wolf',

(iv) 'The two brothers resemble each other less than they resemble their father'.

These two examples are not exactly like the earlier ones, i.e. (i) and (ii). In either of (i) and (ii) the comparison is confined to two instances of similarity. In (i) the similarity is between 'yellow and orange' and between 'yellow and red'; and in (ii) it is between 'red and yellow' and between 'red and orange'. But (iii) and (iv) are both of them different. In each case the comparison covers three instances of similarity. Thus in (iii) we have similarity between 'dog^1 and dog^2', between 'dog^1 and the wolf' and 'the dog^2 and the wolf'. Likewise, in (iv) the similarity is between 'son^1 and son^2', between 'son^1 and the father' and between 'son^2 and the father'.

Each of our four examples above covers three terms, e.g. 'yellow', 'orange' and 'red', or 'dog^1', 'dog^2', and 'the wolf' and so on. We could also mention examples involving more than three terms. But to have three or more terms is not necessary in all cases where we talk about similarity in terms of expressions designating degree. Nor, again, is it necessary for that purpose to use the two words

'more' or 'less' and their cousins. For, one can xxx well say : 'The two copies are exactly similar', or 'The two brothers are more or less similar'.The sentences designate degrees of similarity. And each involves only two terms. This, however, is not to mean that one cannot have such sentences covering more than two terms. There indeed are sentences of this kind which may refer to an indefinite number. E.g. 'The brothers are more or less similar to one another', 'The books are exactly alike one another', and so on.

Anyway, all this, viz. sentences designating degrees of similarity, the number of terms they involve, etc. are by themselves not of much importance. They are important because they tend to provide us with a new principle for the classification of similarities, namely, classification according to degrees.

The principle yields two types of similarity. Borrowing expressions from H.H.Price,[25] we shall

25 Vide Thinking and Experience, Hutchingson University Library, London, p.14.

call them :

(3.3) 'exact' similarity,

and (3.4) 'total' or 'complete' similarity.

(a) Similarity, Price says, "has two dimensions of variation. It may vary in intensity, it may also vary in extent." Now we have exact similarity between two things when the similarity between two things shows the maximum degree of intensity.

Two things to be noted about exact similarity at this point.

One : being the maximum in the range of the variation of similarity in respect of intensity, exact similarity is not itself amenable to variation. This is obvious.

Two : no one object as a whole can be exactly similar to another taken as a whole. The two objects may be exactly similar only in one particular aspect of them. To illustrate the point, let us take two pieces of paper. Say, they are unlike each other in respect of shape, size and thickness, so that neither

as a whole is exactly similar to the other. Yet they may be exactly similar in being, say, white.

There are some philosophers who are inclined to dismiss exact similarity as an unrealised ideal. Exact similarity, for them, is a myth. The ground for this position is inductive. It consists in showing that, on occasions, two things considered exactly alike at the beginning manifest unlikeness on closer inspection subsequently. This indeed is a fact which no one would deny. Yet as is pointed out by Price,[26] it is a bit too inadequate for its job, namely to justify a sweeping denial of exact similarity. For, there also are many cases where "there is no discoverable inexactness in a resemblance."[27] E.g., the resemblance between two one rupee notes in respect of shape or size, that between two parts or a piece of white paper in respect of their whiteness.

(b) When we say that two things are exactly

26 Ibid, p.15.
27 Ibid.

similar, what is taken in consideration is a certain selected aspect of the two things. But in the case of what we have chosen to call their complete similarity, there is no such selection. The notion of complete similarity involves reference to all aspects of the two things.

Can two things <u>in practice</u> resemble each other in every respect? Some, e.g. Leibniz, as we know, deny that they can. Even if they were otherwise similar, they must, it is said, differ in certain spatial and temporal characteristics. Those define their respective identities which in turn provide ground for referring to them as <u>two</u> things instead of one. Anyway, we are not going to oppose this position nor to support it. Similarity, which is <u>absolutely</u> complete, may indeed be an ideal limit which can never be reached. Yet one cannot deny sense to the phrase 'complete similarity'. For, reference to it is unavoidable when we observe similarities among things varying <u>in extent</u> and what want to describe them. Take <u>A</u> and <u>B</u>, on the one hand, and <u>C</u> and <u>D</u>, on the other. Suppose that <u>A</u> and <u>B</u> resemble

each other in all respects except one, while C and D resemble in all respects except two or three. Tax To describe such a situation we say 'The similarity between A and B is more complete than that between C and D', or 'The similarity between C and D is less complete than that between A and B'.

Exact similarity, we have said, is not amenable to variation, being the maximum point in the range of the intensity of similarity. The maximum of complete similarity may be an unattainable ideal. What is attainable is only various degrees of approximations to this ideal. We need reference to the phrase 'complete similarity' to describe these variations.

III

To m sum up now.

We started with two principles according to which, we said, our projected classification of similarities was to be carried out. One of these two principles,

as we can remember, is to take into consideration the various kinds of terms between which similarity-relation may be said to subsist. The other consists in taking into consideration the peculiarities of similarity-relation itself. As above, in I and II respectively, the two principles so far have yielded two parallel sets of similarity-sub-classes which, finally, may now be schematised as follows :

Similarity

(1)Similarity between particulars (complex or derivative similarity)

(2)Similarity between non-particulars (simple or underivative similarity)

(1.1)Similarity of objects

(1.2)Similarity of events

(1.3)Similarity of objects and events.

(2.1)Similarity of qualities (material similarity)

(2.2)Similarity of relations (formal similarity)

(2.1a)Similarity of sensory qualities

(2.1b)Similarity of non-sensory qualities.

(2.2a^1) Similarity of symmetrical relations

(2.2b^1)Similarity of transitive relations

(2.1a^1)Similarity of simple sensory qualities.

(2.1a^2)Similarity of complex sensory qualities.

(2.1b^1)Similarity of simple non-sensory qualities

(2.1b^2)Similarity of complex non-sensory qualities.

(2.2a^2) Similarity of non-symmetrical relations

(2.2a^3) Similarity of asymmetrical relations.

(2.2b^2)Similarity of non-transitive relations

(2.2b^3)Similarity of intransitive relations.

II

II

Similarity

(According to qualitative property)
(3.1) Symmetrical-transitive similarity
(3.2) Asymmetrical-intransitive similarity)

(According to degree)
(3.3) Exact Similarity
(3.4)
(3.4) Total(Complete, Overall) Similarity.