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PSYCHOLOGY AND SCIENTIFIC METHODS

ON THE METAPHYSICAL SIGNIFICANCE OF RELATIONS

RELATION is the primal category of thinking. One's conception of the meaning and function of relations contains the key to one's entire metaphysics. And I propose to consider here very briefly what must be the fundamental or ultimate type of relation if we have a valid knowledge of reality. In other words, presupposing that thought does get at the real world, what is therein involved as to the relational character of the real? For purposes of provisional definition we may say that *A* and *B* are related if some assertion concerning *A* warrants any assertion concerning *B*. If *A* is related to *B* as father to son, then an assertion concerning *A*'s age warrants some assertion concerning *B*'s age, but does not enable us either to affirm or to deny that *B* habitually wears a red necktie.

The naïve view is that the relating activity of thought is wholly external to the real behavior of things. But a little reflection makes it plain that this view is untenable. We can not separate the relation of things to one another from their relations in our experience. It makes all the difference in the world to a wild-cat and to his other prey, as well as to me, whether I apprehend his spatial relations when he stalks me from a tree in a dark wood. Consciousness of relation is itself a relation internal to the world of actual and possible experience. An object is *not the same* for our experience before and after our discovery of new relations in which it stands. We feign that it is the same.¹

The color spectrum is not the same to him who is able to distinguish one hundred and fifty color qualities and for him who sees only the eight standard colors from red to purple. The red which I compare with purple is different for me from the red which has not been explicitly compared with any other color, and for a man who lived entirely in a red universe, red would not be the same as

¹ Hume said this, of course, and it was the beginning of his scepticism. From this position there is no way back to naïve realism. The only choice open is to stick in scepticism or go forward to an objective idealism.

it is for me who am not at all color-blind. Nor can we draw a hard and fast line at any point and say, here cognized thought relations become wholly external to the actual processes and natures of things. Even the geological structure of the earth and perhaps the entire arrangements of the solar system are affected by human thought-relations. Thought modifies *some* of the relations of seemingly external things and processes and we are not able to set a limit to this modification of things by consciousness or to assert that anything is utterly and absolutely indifferent to thought's relating activity. To make such an assertion is to attempt to leap out of experience and its world into the inane and the unintelligible. Even 'chaos' is a relative term.

Discursive thinking is essentially relational. Its success is based on actual connections between real elements. We do not *know*, either for practical or for theoretical purposes, the actual behavior of things and the real meaning of experience except through apprehension of relations, and these must be implicit in immediate or 'pure' experience. The cognized and cognizable existence of things (and there is no sense in talking about any other sort of existence) is the relation of things to an attending and comprehending mind. The relations of things to one another, however extra-mental they may seem to be, can not be separated from this fundamental relation of thing or event to the mind. When I say this rose smells sweeter than that one or this stone is heavier than that one the thought of the stated relation between the two objects is the explication of the relation of the two objects to me. Relations, then, must somehow belong to the very nature of reality. The validity of thought's relating activity, *i. e.*, the validity of all reflective cognition implies that our progressive discrimination and comparison of things results in the discovery of the actual relations of the elementary things and processes of reality.

It does not follow that every relational junction which I effect between separate concrete elements of experience is absolutely true of reality precisely in the way in which my thought effects it. Practical experience constantly warns us not to confuse the psychological processes of discovery with the actual movements and 'natures' of things. The relations which we assume to hold between objects in most cases get only a rough and ready approximate verification in action. Sometimes these relations are refuted by failure to reach our ends. As we seek to know and control more fully the world of raw experience we are forced constantly to revise our analysis of it into elementary things, processes, and connections static and dynamic. Such revision is the condition of our successful practical synthesis with this world, *i. e.*, of the workability and validity

of our formulated relations or junctions between its elements. Reality is not *alogical*. Every successful operation of thought on the raw material of experience vindicates this assumption. There is an immanent logic in the real movement of the world. But this logic develops slowly alike in the individual, and in the race and its growth is subject to seemingly accidental psychological conditions. Many details of personal biography and racial history are, so far as we can see, wholly irrelevant to and even obstructive of the conscious apprehension of the logic of reality.

Relations then as thoughts in the individual mind do somehow reveal the qualities of things. The characters and processes of things are constantly being changed for our thinking by the discovery of new relations. But, whether the new relations are new only for our minds or are the actual symbols of objective extra-mental changes, they must, if valid, have their roots in the behavior of real things towards one another. The *cognized* characters and processes of things must symbolize manifestations of real action and passion in the elements of being. Persistent thinking about the 'natures' and modes of behavior of things may throw fresh light on them. Indeed, as I have already remarked, increase of knowledge does open up the way to change in real relations through the action of the knower. But the concrete realities in their living connections can neither be produced by the mere consciousness of relations nor abolished by the collapse of specific relations which are discovered to be inadequate. The germs of the consciousness of objective, *i. e.*, valid relations, must lie in the actual immediate influences of things, not in 'qualities' abstracted from things, but these influences may be misinterpreted by thought. Cognitive relations are shorthand renderings in consciousness of the actual behavior of elements of reality and the contradictions, with which, for example, certain space and time relations of things seem to fall, simply show that we have not adequately analyzed our actual experiences of the *togetherness* and movement of things. Our analysis may be at any given time incomplete, but it is not therefore wholly invalid in reference to validity. Hence our inability to render a complete and wholly consistent account of the relations of things proves neither the external and unreal character of all relations nor the illusoriness of the concrete and particular experiences on which these relations are founded. This inability indicates: (1) that experience is more complex than our thinking at any given stage; (2) that it is difficult for the process of thinking to keep pace with the actual movement of things. But the validity of the thinking process involves its vital contact with reality and nowhere more emphatically than in the cognition of relations. For the discovery of relations is the fundamental characteristic of reflective cognition.

The qualities of things are not the creations of thought but the explication of these qualities, and their modification by human action is the result of thought's relating activity working on the *given* or *raw material* of sense-experience in which relations are imbedded from the outset.

It is time to enter on a more detailed and exact analysis of relations preparatory to a consideration of the fundamental conception of relation of which we are in search.

There are two distinct types of relation—*transeunt* and *immanent*. The ordinary causal relation between separate things is the most universal and common case of transeunt relation. When we say this fire was caused by an explosion of gunpowder, we mean that a process or movement in one individual thing has passed over to and produced a change in another individual thing. It has now become a commonplace that the source of the action of transeunt causation is the active relation of the self to the external world. But the process of causation is reciprocal or mutual here as elsewhere. If the mind causes changes in the extra-mental world, it is equally true that extra-mental things cause changes in the mind. Now the extreme difficulty of forming any conception of *how* different things can interact has led, especially in the crucial instance of the relation of mind and body, on the one hand, to a denial of any real causal or efficient interaction as in dualistic parallelism, and, on the other hand, to the endeavor to interpret all interaction as immanent. The latter is the position of abstract monistic idealism.

The character of *immanent* relations is well illustrated by the nature of a living organism and still better by the nature of a single consciousness.² In these cases the unity of connection which constitutes the relation does not result from the reciprocity or interaction of independent elements. The parts of an organism and still more the various aspects of a conscious individual are real elements only in the unity of the whole. They have no real being apart from

² Many mathematical relations are of the immanent type, *e. g.*, the relations between the sides and angles of a triangle. This immanency of relation in a whole which may be internally developed by thought is the foundation for Kant's assertion that mathematical judgments are *synthetic a priori*. Given a self-sufficient whole, judgments regarding its internal relations would depend for their validity only on the reflective development of this whole for naught. Hence if the universe were given to us as a whole we might be able, by analysis, to develop a complete system of absolutely valid metaphysical judgments. But I cannot now pursue this subject farther and it will be apparent from the conclusions of this article that I do not regard judgments of the immanent relations of real beings to be ever wholly validated without a synthesis which carries thought beyond a merely immanent experience. (I mean, of course, a human experience.)

their relation to the whole, whereas in the case of transeunt relations, the related things seem at first sight to exist apart from the relations. Now when the philosopher is driven beyond the latter conception by his inability satisfactorily to conceive how causal interaction can take place between things not already related in nature his next step is naturally to reduce all transient relations to immanent relations. And at this point the internal structure and movement of a conscious selfhood become the clearest and most obvious illustration of a consistent system of real dynamic and immanent relations. For, indeed, the self is the source of both types of relation. The self develops its internal nature by going beyond itself. In its development a living conscious self is constantly transforming external relations into immanent relations, constantly appropriating into its own being the effects of its apparently transient relations with the external world. The self, in the idealist's now familiar and well-worn words, offers a unity developing in and through variety, an identity persisting and growing in the midst of change. The self maintains the continuity of its life through a varied succession of events, etc. The self then affords not merely a static illustration of the immanent and organic unity of relations which must belong to the real world, if the latter be intelligible, but besides in its very conscious life and growth it affords us a beautiful illustration of how there can be development or growth in an actual unity. It is of course possible that the real world may be a mechanical system. But then evolution must be an illusion. The individual centers of the system can have no vital material influences, no actual relations. If the real world consists of actually related elements then evolution in it must be conceived in terms of conscious selfhood.

The idealist, then, who reduces all reality to the contents of a single all-embracing self or consciousness, seems only to be carrying out to their inevitable issue the implications of the simplest and most matter-of-fact relations. But has he not gone too far and moved too hastily? The outcome of his theory is that there is only one real being in the universe to whom all relations are internal or immanent. But can we conceive of such a being? Is not, after all, the entire meaning of our concrete experience 'absorbed,' 'transmuted,' abolished in this conception? What is the meaning of an all-absorbing unity which eats up all relations? After all, if relations be real, in any sense there must be real *beings*, not one lone being, to be related. Relations can not be simply internal to a self.

In truth the internal structure and movement of a single self do not furnish us with an adequate and ultimate conception of the metaphysical significance of relations. The individual self does

live by transforming external relations into internal relations. But it is equally true that the self's internal structure, the mutual positions and movements of the various aspects of its complex life, get defined, come to consciousness, are realized, only through transeunt relations.

It is preeminently in living intercourse or interaction with other selves that the individual's own internal nature is realized. The individual can gain no true inward life without the play upon himself of social influences. *The most comprehensive type of relation, then, is furnished by the individual life in society*, by the individual as a member of a spiritual and dynamic system of selves. For here no relation is purely transeunt or purely immanent. There are in a spiritual, social unity no merely external transactions that have naught to do with the lives of the transactors. There are no purely immanent relations between aspects of the individual life that have naught to do with other lives. Each separate self may have his own apparently unique and unsharable relation to the world. His action on other selves through the medium of the extra-mental world may seem wholly transeunt, but in the pursuit of common aims, in the possession of common ideals and principles of thought, the seemingly external and transeunt relations of selves become immanent in the individual. The unity of a society of selves then affords us a genuine example of relations that are at once transeunt and immanent. And so we may say that the fundamental type of relation of which we are in search is furnished by the reciprocity of influence exerted and felt by the living centers in a spiritual system or community of conscious beings.

I will now sum up the conclusions of this enquiry. If the judgments of reflective thinking are valid for reality, even to a very limited extent, thought-relations must hold of reality, *i. e.*, be themselves real. If relations be real there must be a multiplicity of real beings to be related. If relations be real they can not be external to the beings related, and the world must be one. If there be a universe of related elements the relation must be at once vital and internal to the elements related, and the latter, on the other hand, must be themselves individual and living centers or sources of relationship. It might be possible to conceive the relations of the parts in an entirely static universe without reference to the lives of conscious beings. Such relations would be mere threads of connection woven by our thinking between elements which in truth did nothing and in which nothing happened. But in a universe in which evolution or growth actually takes place the reality of movement implicates every element in some sort of relation to the dynamic process. The relationship of elements which develop or move from

within and receive influences from without can be best conceived after the analogy of the reciprocal social influences of conscious selves. If growth be internal to the real universe then the unity of the latter must be constituted by the mutual influences of elements which live at once in transient and immanent relations. The fundamental reality in the relations of things is the reciprocity of influence among living centers in a system. This system by the very living and conscious character of its elements and the mutuality and directness of their influences and development may properly be called *spiritual*.

To develop adequately this conception of the ultimate significance of relations would carry us far afield. We should have to pass the limits of a journal article and embark on the wide sea of metaphysical system. With this suggestion of where the theory of relations leads I must close this necessarily meager article.

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DISCUSSION

UNSCIENTIFIC METHODS IN MUSICAL ESTHETICS

THAT the terms used for a scientific theory must be defined, is self-evident. Scientific terms are words; they must be words, to be written and spoken, since the object of science is the communication of knowledge. Most of the modern sciences have been very fortunate in introducing a terminology made up of words which had practically no meaning whatever before the scientist gave them a meaning by referring to a *definite group of experiences*. Practically all the scientific controversies of earlier centuries concerning terms now well defined, for example in mechanics, arose from the fact that a term employed had a vague meaning before it was used as an arbitrary symbol for a definite group of experiences. Mach's 'Science of Mechanics' gives instances enough of this sort. Instances of a similar obstacle to progress in a distinctly modern science will be found farther below (observe the terms 'rhythm,' 'esthetic').

There is a science of very recent origin which is very unfortunate with respect to terminology—esthetics. We must not permit ourselves to be deceived by the fact that many of the terms used in esthetics are clearly of Greek or Latin derivation. However true this may be, they had long ago become associated with a large number of experiences other than those referred to when we first met them in the beginning of a book on esthetics.

Under these circumstances the esthetician ought to be most care-