

## **Psychological Implications of the Causality-Finality Schism**

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"With words 'tis excellent disputing;  
Systems to words 'tis easy suiting."

GOETHE: *Faust*, Part 1.

The limited conceptual capacity of the human mind has probably been best proven by the bitter philosophical arguments conducted from time immemorial, whether matter, life, and thought exist, move, and disintegrate because of some efficient cause(s) or because of some inherent purpose(s).

Arbitrarily, causalism has been considered more scientific because of its denial of any purposiveness of matter and life. Teleologism, on the other hand, has been less favorably considered because of its assumption that life is motion, and motion must have a direction regardless of whether the human mind is capable of recognizing it or not. Both points of view, if pursued into their last logical consequences, namely, to the last cause or to the last goal respectively, will necessarily reach the limits of the human mind, necessitating the dismissal of the entire problem. In fact, we can observe that they eventually overlap.

Undoubtedly, great progress has been achieved in the physical sciences since Galileo introduced his mechanistic concept of inertia. However, far greater and faster achievements have been recorded since the strictly causalistic principle has been abandoned in favor of the non-causalistic relativity and quantum theories.

Referring to the causality-finality problem, Sir James Jeans, the late eminent physicist and strict causalist, wrote: ". . . modern physics shows that these formulations of the question have become meaningless . . ." and, ". . . the new physics has shown that the problems of causality and free-will are in need of a new formulation." Sir Arthur

Stanley Eddington went even further when he concluded that "strict causality is abandoned in the material world. . . . This relieves the former necessity of supposing that mind is subject to deterministic law or alternatively that it can suspend deterministic law in the material world."

One can almost certainly predict that progress in biology and psychology will show the same trends if and when it will be generally recognized that "mechanistic," "causalistic," "experimental," and similar methods constitute only a form of, but not a synonym for scientific perception. In this connection, we can refer to Einstein who stated that "those theorists who believe that theory comes inductively from experience are much in error," and warned that "there is no inductive method which could lead to the fundamental concepts of physics."

Referring to biology, John Scott Haldane, the famous physiologist, was reported as having said in an address in 1885:

"That a meeting point between biology and physical science may at some time be found, there is no reason for doubting. But, we may confidently predict that if that meeting is found and one of the two sciences is swallowed up, that one will *not* be biology."

Recently, serious attempts to correlate biological and psychological purposiveness were undertaken; they indicate that physical and chemical reactions cannot explain the functional and morphological maintenance of the organism and that the problem of biological organization must rest in the *responding system*, in gene action.

Referring to the understanding of the manifestations of personality Adler had stated: ". . . every semblance of causality in the psychical life is due to the tendency of many psychologists to present their dogmas disguised in mechanistic or physical similes." Years later he declared: "Speculative insight is necessary to understand the context data which may lead beyond the province of experience."

Either Causality or Finality is a methodological and conceptual frame of reference. Both methods serve the same purpose and originate from the same stimulus: human quest for knowledge as a special form of striving for self-perseveration. At times, the fight for supremacy of either method over the other seems to suggest subjective rather than objective motivations. Such are: personal significance gained through ascribing undue significance to the problem involved; intellectual gratification from brilliant "juggling with words" (Jeans); implication

or exclusion of theological problems and/or moral responsibility; claim of representing *the* exclusive scientific discipline, etc.

Moreover, the conceptual arguments on "Causality or Finality" suggest a certain degree of compulsion, a kind of "narrowed path of approach" (Adler). The methods of fight do not eliminate the suspicion that this fight is being perpetuated in order not to solve but to avoid final solution of the problem of the universe by concentrating on one "narrow path." ("From practice, one gets the impression often that words and thoughts have been set at so high a premium in these compulsion cases because the patient began in childhood to consider the power of linguistic expression as a vital problem in his life." Quotation from Alfred Adler's discussion on "Compulsive Neurosis" in *International Journal of Individual Psychology*, Vol. IV, (1936), p. 20. Cf. also Sir James Jeans' statement regarding the Causality-Finality controversy: "... to travel hopefully is better than to arrive.")

At any rate, the life-styles of the determinists and the indeterminists are more or less distinctly reflected in their determinism or indeterminism, respectively. Strict determinism tends to absolve man and mankind from responsibility; indeterminism involves a great deal of responsibility to be assumed by individuals as well as by society. Determinism, more accurately pre-determinism, applied to psychology would infer a great deal of compulsion, inevitability; so to speak, an invisible strait jacket leaving only an extremely limited possibility for personality, serving as scientific alibi for abandoning human striving. On the other hand, indeterminism encourages human striving by ascribing to the human mind the inherent capacity of organizing, evaluating, accepting, or refusing given circumstances, called by the determinists "causes."

It has been long recognized that a serious obstacle to a successful solution of this conceptual schism is the lack of a definite and unambiguous terminology. The same terms are frequently used in different contexts with different meanings, gradation, and conclusion. Indeterminism is being used for free-will, free-choice, chance, unpredictability, caprice, absence of guiding principles, immeasurability of position and rate of speed of particles simultaneously, etc. Causality is being used to include theoretical predictability, predetermination of events almost reaching theological concepts, explaining all human interpretation including purposiveness itself. (It is argued that it is not the goal or purpose but the striving, wish, or hope for the goal or purpose which

"determines" the action, regardless of the goal itself which may or may not be accomplished.)

It does not take too much philosophical imagination to detect that Descartes and Kant had been determinists who tried to "shed their determinism" (Jeans). Kant recognized that causality is our way of interpretation of temporal sequence. The improper application of the "*post hoc ergo propter hoc*" ("after" and therefore "because") concept is one of the most frequent and most consequential mistakes of human logic.

Among the other determinists, Locke considered our evaluation of the results of actions as the determining cause of actions. Royce looked upon the category of cause as "a particular case or category of serial order" and rated it as "subordinate to the ultimate category of purpose." Sir James Jeans similarly approved that not the goal but the hope for the goal is the cause which determines action; and concluded that "free-will is only our name for unconscious determinism." In the field of experimental physiology, Claude Bernard—well known for his strict determinism—is said to have declared that "when we make a general theory in our sciences, the only thing of which we are certain is that all these theories are false, absolutely speaking" (Bergson). Magendi was also quoted as believing in a "certain indeterminism of the vital phenomenon" (Bergson).

Teleological concepts, too, have appeared in different meanings, shades, and forms during the long history of human ideas. Previous theological implications are no longer inevitable accompaniments to finalistic thought. "Divine intervention does not add to man's freedom, but to the restrictions on it" (Jeans). The search for possible causes is being recognized as the causalistic leaning of the human intellect.

James and Peirce conceived indeterminism more as "tychism"—the theory of chance having objective reality in the course of events and causing "fortuitous variations" in evolution—rather than as a capricious free-will, as conceived by Jeans. Lotze who introduced the concept of "Teleological Idealism" was a teleologist in philosophical, but an empiricist in scientific methodology, and advocated a psycho-physically oriented psychology. Adler's description of the goal-directedness of human psychic life is clear cut. Nevertheless, he declared it essential to explain how those goals originate, and observed that everything grew as if following an urge toward perfection, or goal of evercoming. To him indeterminism did not mean "pure caprice without having any guiding

motive in the mind" (Jeans) but a constructive, moralistic, in a sense metaphysical, concept as opposed to the dogmatic, fatalistic causality which inescapably pre-determines an individual's fate through inherited qualities and environmental impressions. The role of causality was explained by him thus: "Only at the point where we come directly up against facts that reveal a contradiction to our interpretation are we inclined in our immediate experience to correct our view of them in minor details, and allow the law of causality to influence us without changing our conception of life."

Recently, a unifying philosophical conception of teleological causation has been evolved to bridge the crevasse between causality and finality. This concept has several precursors in the history of philosophical ideas. In Aristotle's teachings there are four kinds of causes: material and efficient (physical); formal and final (mental). The final cause is the goal or motivation for which a certain action is undertaken. Plato mentioned the principle of "wandering cause"; it was based on the assumption that "the purpose of the whole dictates the action of the part." The view that the presumption, evaluation and expectation of the goal constitute the real causes of actions, as proposed by Locke, Jeans, etc., was mentioned above among the causalists because they considered this concept as basically causalistic. Maxwell compared the body to a train and the mind to a pointsman who directs the train at the junctions with minimal or no actual expenditure of energy.

L. K. Frank realized that "the causal concept in biology (or stimulus-response in psychology) ignores the participation of the organism-personality who is acted upon by the so-called cause or stimulus . . ." and advocates the concept of teleological mechanism which includes the idea of purposive behavior. This, he says, "is not a regressive movement to an earlier stage in the history of ideas, but a forward movement toward a more effective conception of the problems we face today." Cannon's conception of "homeostasis" (wisdom of the body), and Woodbridge's "Natural Teleology" are undoubtedly inspired by similar ideas.

Thus, from a constructive viewpoint, the hopelessness of smoothing out the controversy between determinism and indeterminism is more apparent than real. Even Jeans conceded that "the classical physics seemed to bolt and bar the door leading to any sort of freedom of the will; the new physics hardly does this; it almost seems to suggest that the door may be unlocked—if only we could find the handle."

In conclusion it may be said that unless the quasi-compulsive character of the fight for the possession of exclusive and absolute "truth" is substituted by a constructive co-operation toward an ideal community "*sub specie aeternitatis*," the fight might last another four thousand years. Or, have we really hit the uppermost limits of conceptual ability of the human mind? To escape such a defeatistic conclusion we have to realize that if facts of life do not seem to fit into our preconceived theories, it is better to change our theories than to talk away the facts.

#### BIBLIOGRAPHY

- Adler, Alfred: *Social Interest*, London, Faber and Faber, 1938.
- Adler, Alfred: "Structure of Neurosis," *Intern. Journ. Indiv. Psych.*, Vol. 1, 2d qua., pp. 3-12, 1935.
- Bergson, Henry: *Creative Mind*, Philosophical Library, New York, 1946.
- Cannon, W. B.: *The Way of an Investigator*, W. W. Norton, New York, 1945.
- Eddington, Sir Arthur Stanley: *The Nature of the Physical World*, Cambridge, University Press, 1929.
- Einstein, Albert: "Physics and Reality," *Journal of Franklin Institute*, Vol. 221:349, 1935.
- Frank, L. K., G. E. Hutchinson, W. K. Livingston, W. S. McCulloch, and N. Wiener: *Teleological Mechanisms*, New York Academy of Sciences, Vol. L, Art. 4, New York, 1948.
- Jeans, Sir James: *Physics and Philosophy*, Cambridge, University Press, 1942.
- Lotze, Rudolf Hermann: *Microcosmus; an Essay Concerning Man and His Relations to the World*, 3d ed. Edinburgh, T. & T. Clark, 1888.
- Peirce, Charles Sanders: "Ontology and Cosmology," in *Collected Papers*, ed. by Ch. Hartshorne and P. Weiss, Cambridge, Harvard University Press, Vol. VI, 1935.
- Plato: *Timaeus*.
- Sinnott, E. W.: *Cell and Psyche; The Biology of Purpose*, Chapel Hill, N.C., University of North Carolina Press, 1950.
- Woodbridge, F. J. E., "Natural Teleology," In *Essays in Modern Theology and Related Subjects*, Ch. Scribner's Sons, New York, 1911.