

CAUSALITY-TALK: MODEL-TALK OF BUDDHISM AND SCIENCE*

1. DIFFERENT CONTENTIONS

- (i) "Until the general theory of relativity, Euclidean geometry had been accepted without question as the underlying structure of the universe ... Birkhoff and Von Neumann disproved the universality of classical logic ... A powerful awareness lies dormant in these discoveries: and awareness of the hitherto-unsuspected powers of the mind to mold 'reality' rather than the other way round. In this sense, the philosophy of physics is becoming indistinguishable from the philosophy of Buddhism, which is the philosophy of enlightenment." *The Dancing Wu Li Masters*, 1979, p.296¹
- (ii) "... the causal principle as stated in the Pāli Nikāyas and the Chinese Āgamas seems to include all the features of the scientific theory of causation-objectivity, uniqueness, necessity, conditionality, constant conjunction, productivity, relativity—as well as one-one correlation." *Causality: The Central Philosophy of Buddhism*, 1975, p.98²
- (iii) "... a one-one correlation is established between the conditions constituting the cause and their effect. This is the scientific view of causation as opposed to the practical commonsense view." *Early Buddhist Theory of Knowledge*, 1963, p.449³

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1. Gary Zukav, *The Dancing Wu Li Masters*, William Morrow and Co., Inc., New York, 1979, p.296
2. D.J. Kalupahana, *Causality: The Central Philosophy of Buddhism*, The University Press of Hawaii, 1975, p.98
3. K.N. Jayatilleke, *Early Buddhist Theory of Knowledge*, Allen & Unwin Ltd., London, 1963, p.449

2. THE CANON AND SCIENCE

Is causality-talk in Buddhism, then, scientific?⁴ The aforementioned quotations, picked out from recent Buddhist causality-talk, suggest, to a great extent, an affirmative idea. In what follows, I shall attempt, very briefly of course, to monitor the results when they are compared with certain key quotations from the Canon and from scientists' literature in respect of causality in Buddhism and in modern science respectively.

In the *Samyutta Nikāya*, the Buddha contends: "What is causality? Depending on birth, decay-death arises: whether the Buddhas arise or not, this order exists, namely, this state of things (dhātu), the stability of nature (dhammatt-hitatā), this pattern in nature (dhammaniyāmatā), this causality (idappaccayatā) just exists. And the Buddha realizes it, declares it, expounds it and teaches it."⁵ This key statement literally means; whenever X, then Y—this being so, that is so; whenever not-X, then not-Y: this not being so, that is not so. The Buddha realizes it and teaches it. Such notions as "pattern in nature," "stability in nature," "causal dependence," need to be understood in strict relation to the Buddha's goal—the elimination of craving and clinging—disentanglement. The form of life and language-game⁶ ingrained in Buddhism remain undamaged only then. Craving-elimination and clinging-elimination are the key issues to which the Buddha's sermons give prime significance. If so, a causality-talk within the ambit of Buddhism involving the wider cosmos is to make an effort in the wrong direction. The pattern, the stability and the causal dependence are the characteristics of Buddhist causality which get themselves expressed by way of causal statements as "jātipaccayā jarāmaranaṃ" ("depending on birth,

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4. For a conceptual analysis of the Buddhist notion of 'causality,' see: A.D.P. Kalansuriya, "Is the Buddhist Notion of 'Cause Necessitates Effect,' (paṭiccasamuppāda), Scientific?" in *the Journal of the International Association of Buddhist Studies*, Vol.I.no.2. University of Wisconsin, Madison, Wisconsin 53706 USA, 1979, pp.7.22
5. *The Samyutta Nikāya*. II.25
6. L. Wittgenstein, *Philosophical Investigations*, Basil Blackwell, Oxford, 1953, 50e (see also: p.16e)

decay-death arises"). A moral theme, undoubtedly, is echoed here. Again, "depending on ignorance, volitional actions arise," "depending on clinging, becoming arises," "depending on becoming, birth arises," are some of the impressive illustrations of this causality-talk. These illustrations give a good clue as to the nature and scope of this causality. As regards scope, Buddhist causality, strictly, is a logically closed system. In this system, given cause, effect necessarily follows. There is no room for any disturbing factor. A sort of moral necessity is implicitly contained therein. The tentative conclusion of the above discussion is as follows: the Buddhist causality-talk is one that makes explicit a logically closed system with causal relations that exhibit the characteristic of moral necessity and not any other kind.

This conclusion is strengthened a great deal by the following contention of the Buddha: "... the causality has the characteristics of objectivity (*tathatā*), necessity (*avītathatā*), invariability (*anānñathatā*) and conditionality (*idappaccayatā*)".⁷ This kind of causality needs to be understood only within its conceptual structure or as Wittgenstein noted, "logical 'grammar'"⁸ to avoid it being made meaningless.

The aforementioned Canonical quotes establish beyond doubt that the Buddhist causality is embedded not on a made-up scientific formula but in an ethico-meditative groundwork essentially woven into ancient Indian thinking. Therefore, such terms as objectivity, necessity, invariability and conditionality in this causality cannot be compared with their modern parallels in the modern sciences. In the latter they are but technical terms which give very limited use in a given context. Some terms as 'necessity,' 'invariability' do not play significant roles in the scientific causality. Let us look at an important feature of most modern quantum mechanics which displaces classical Newtonian physics. According to it, a new round of debate about causality has been born where the location of a particle is considered as intrinsically imprecise. Again, these particles are "tendencies to exist" or "tendencies to happen." The strength of these tendencies are expressed

7. *The Saṃyutta Nikāya*. II, 26

8. *Philosophical Investigations* (op.cit.), p.116e

in terms of probabilities. If the new Physics exhibits these characteristics, it is not possible to entertain 'necessity,' 'constant conjunction,' 'invariability,' 'objectivity,' 'uniqueness,' and 'one-one relation,' which are grounded in Buddhist causality as those of scientific causality also.

The physicist, W.A. Wheeler says: "May the universe in some strange sense be 'brought into being' by the participation of those who participate? ... the vital act is the act of participation. 'Participation' is the incontrovertible new concept given by quantum mechanics. It strikes down the term 'observer' of classical theory, a man who stands safely behind the thick glass wall and watches what goes on without taking part. It can't be done, quantum mechanics says."⁹ Admittedly, if one cannot eliminate oneself from the picture, there is no such thing as 'objectivity.' Again, the new physics tells us in unequivocal terms that it is not possible to observe reality without changing it. If so, 'uniqueness,' 'conditionality', 'one-one relation' and 'productivity' cannot be held as characteristics of a causality which gradually approaches climax by way of participant, experimenter, etc. Following this line of argument, we say that Buddhist causality comes sharply into contact with the kind of new causality in science.

The next key characteristic seems to be 'one-one relation.' In the first instance, it must be said that a similar notion is not found in the canonical literature, although the oft quoted causal illustrations would convey an ostensible idea. The issue has to be settled sooner or later, and therefore, we ask the following question. What is a 'one-one relation?' The scientific investigator attempts to find a relation that is equally determinate in either direction, that is, he seeks a one-one relation. For example:

"Whenever X occurs, E occurs, and E does not occur unless X has occurred."¹⁰

9. W.H. Wheeler, K.S. Thorne and C. Misner, *Gravitation*, San Francisco, Freeman, p.1273

10. L.S. Stebbing, *Modern Introduction to Logic*, p.264

But this causal formula *does not mean*

- (i) X will be followed by E or
- (ii) X will bring about E or
- (iii) X gives rise or produces E or
- (iv) X necessitates E.

Admittedly, it simply means, what acceleration a particle will have under a given circumstance, i.e. it tells us how the particle's motion is changing each moment, and not where the particle will be at some future moment. The causal formula ingrained in the sciences which embodies 'one-one relation' can absorb the idea that it is not rendered necessary, that causes should precede their effects. Bertrand Russell in his *Mysticism and Logic* formulates the idea in this way: "The law makes no difference between past and future; the future 'determines' the past in exactly the same sense in which the past 'determines' the future."¹¹ From the point of view of the primitives that are involved, the causal formula in Buddhist causality implies a kind of 'one-one relation,' yet remains incapable of absorbing this probability-idea which is scientific. There are several reasons for this incapability:

1. that the nature of 'one-one relation' is a very different one as grounded in Buddhism,
2. that the scope is logically limited,
and
3. that this causal model fails to accommodate the reversibility of the temporal order of cause-effect direction.

The scientific model, however, logically accommodates the reversibility of the temporal order of events smoothly. In this sense it is hardly possible to accept the Buddhist causality-talk as a scientific causality-talk in a modern sense. The truly scientific notion of causality, by implication, therefore, not only entertains a probability-notion but is also capable of accommodating the wider notion of

11. Bertrand Russell, *Mysticism and Logic*, London, 1917, p.195

the reversibility of the temporal order of events. What emerges explicitly from this for the moment is that probability and reversibility of the temporal order of events are not ingredients of the paṭiccasamuppāda-causality. To gloss over the ostensible similarities, therefore, is a conceptual development on wrong lines. Philosophically speaking, the key difference of causality-talk in the two kinds of discourse needs noting.

3. MODEL-TALK

The notion of causality in Buddhism, in fact, has two very significant *uses* which are either ignored or refused to be understood by most Buddhist scholars and writers; they attempt, inconsiderately, to read Western scientific and philosophical meanings into the Buddha's Dhamma. One *use* is the Buddha's comprehension of causality which is elicited by the important quote in the Majjhima Nikāya: "He who sees causality sees the Dhamma" ("Yo paṭiccasamuppādaṃ passati so dhammam passati").¹² The other one is its usage as a model (causal-model). In the former context, 'passati' ('sees') is increasingly difficult to be conceived as giving literal meaning. The main reason being the non-empirical situation implicitly contained therein. For the Buddha's comprehension of 'causality' falls outside the scope of reasoning, though it can be understood by wise men.¹³ Such a comprehension implicitly contains the knowledge of final emancipation also.¹⁴ With reference to similar situations, the Buddha's advice is—"Of Buddhas range is unthinkable, not to be 'thought of.'"¹⁵ In this sense, a causality-talk becomes increasingly difficult.

But what is of significance to Buddhist philosophy is the second use—the use of causality as a model. In this sense Buddhist causality-talk is a model-talk which attempts to explain certain phenomena—very specially the human person—and not the cosmos, worlds, realities, electromagnetic waves, etc. At just this point, Gray Zukav's following contention is very appropriate: "In this sense, the philosophy of physics is becoming indistinguishable from

12. *The Majjhima Nikāya*. I. 191

13. *Ibid.* 167

14. *Ibid.* II. 43 (*sammādaṇṇāvimuttā*)

15. *The Aṅguttara Nikāya*. II. 80

the philosophy of Buddhism, which is the philosophy of enlightenment."¹⁶ Zukav, of course, speaks about moulding realities in Buddhism, which is erroneous to a great extent, but in letter and in spirit he is right in saying that the philosophy of physics is increasingly becoming indistinguishable from the philosophy of Buddhism, if he only means a kind of model-talk. The causality-talk in the manner of model-talk remains of much interest because of its current similarity with certain attempts in modern science. The point can be clarified in this way. Every science employs its own intellectual keys or models for explanations. Some such varying models are taxa as in biological systematics, models and flow diagrams in Econometric analysis, particles in subatomic physics and genetics, conservation principles as in dynamics, etc. Phenomena are made intelligible by way of these intellectual keys or models. Therefore, model-talk plays a key rôle in modern scientific enterprise. The causality-talk in the sense of model-talk as found in the Dhamma—Buddhism—to a great extent resembles a significant aspect of modern scientific enterprise. Many modern Buddhist scholars and writers have failed to note this aspect, though they have gone to the extent of comparing the Buddhist causal relations with those in the sciences. What should be remembered is that if causality-talk in the sense of model-talk is scientific, such a conceptual tool is found in the Buddha's way of explaining things—specifically the nature, capability and destiny of the human person. But this causal-model makes no room for such conceptuality and goals involved in the domain of science as

- (i) alternative models to explain the human person,
and
- (ii) gradually approaching various climaxes as scientific inquiry continues to yield new truths.

As noted by Isidor Rabi, the Nobel-prize winning physicist, science has no end,¹⁷ and therefore, the scientific

16. *The Dancing Wu Li Masters* (op.cit.), p.296

17. Isidor Rabi, "Profiles--Physicist, II," the New Yorker Magazine, October 20, 1975

inquiry continues indefinitely to yield important new truths."¹⁸ Such pursuits are not the concern in the Buddha's Dhamma. 'The Truth' is not only attained but is also communicated to the follower by the Master—the Buddha. There are no new 'Truths' yet to be attained any more. Final knowledge in the sense of emancipation (sammādaññā vimuttā) has been attained by the Buddha and the path that leads to emancipation has also been proclaimed. This is a logically closed context as regards 'Truth' which is significantly different from science whose context is logically opened. The difference between the two areas of discourse are poles apart but in respect of causality-talk, they have a key resemblance—model-talk. It is in that respect alone that Buddhism—the Dhamma, has a scientific characteristic.

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18. Henry Staap, "The Copenhagen Interpretation and the Nature of Space-time," American Journal of Physics, 40, 1972, 1098