

Causality & Duality

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The Bahá'í writings clearly affirm that the principle of existence in the material world is composition (all material entities are composites), whereas spiritual entities are unified substances or (non-composite) wholes.

It follows that there is a complete ontological separation between the spiritual and material worlds: no spiritual entity can be or become a material entity, and vice versa.

This view of reality is often called dualism or Cartesian duality.

However, a close study of Descartes shows that this is a misnomer. The true principle of Cartesian duality is: *there are no causal relationships between spiritual and physical entities.*

In other words, the two principles (1) that the material and spiritual worlds are ontologically non-intersecting and (2) the nonexistence of causal links between the two worlds, are logically independent. One can affirm (1) and deny (2), which is in fact the Bahá'í position.

Thus, strict materialism (there is no spiritual reality which transcends the material world) and true Cartesian duality both affirm that causes of material phenomena are themselves wholly physical, which means that material reality is self-contained or complete in itself: causality of material events is a physical relationship wholly within space-time.

The position taken in the Bahá'í writings (and by a number of philosophers from Plato onward) is that causality is a logical relationship that can exist between spiritual and material entities and outside of (independent of) space-time.

From this point of view, it makes perfect sense to say, for example, that God has always existed, that the physical universe has always existed and that God has always been the cause of the universe, or to say, as in Paris Talks, that the causes of material progression are spiritual.

The question we now pose is:
how to reconcile (1) and the
negation of (2), i.e., how to
understand in scientific terms the
mechanism of causality between
the spiritual and the material.

Notice that (1) is already stated scientifically by the principle of the conservation of mass-energy (the conservation of momentum, mv), which says that no interaction between physical entities can change the total momentum values of the systems in question.

Physical energy is characterized, by Einstein's famous equation, as interconvertible with mass. Purely physical causality thus presumably involves a transfer of physical energy from cause to effect.

Thus, if the physical system A is a complete cause of the physical system B, then by the second law of thermodynamics, B cannot in any case be more ordered or structured than A.

This gives a scientific form to the philosophical principle that the effect cannot be greater than its cause. But the conservation of momentum shows that causality by a spiritual force or entity cannot operate by the input of (necessarily new) physical energy.

How else could it then operate?
The second law again comes to
our rescue, for it tells us that the
entropy (and thus the structure)
of a physical system can change
*without any change in the
overall momentum values of the
system!*

It can thus be reasonably concluded that spiritual energy operates by inputting negentropy into physical systems, but without changing the momentum values of the total system. Physical causality can decrease the entropy of the resultant system only by an input of physical energy and thus a change in the momentum values of that system.

Conclusion: Cartesian duality (principle (2)) precludes non-physical causality and thus results in the various paradoxes of the arising of highly ordered structures within a constantly degenerating total system. Negating (2), and thus affirming the possibility of spiritual causality, allows us to understand scientifically how such higher order structures arise.

It also gives a scientific basis for understanding such phenomena as those described by Jahn, et. al. at Princeton (*Margins of Reality*, 1988). Finally, the model of the physical world as an infinite hierarchy of ever more refined particles, as presented in

The Tablet of the Universe by Abdu l-Bahá, provides a scientific basis for understanding how spiritually caused perturbations at higher levels of physical reality could translate into observable effects at lower levels, especially in the case of highly unstable systems with multiple bifurcation points.