# Quantum K

### Holography Solves

#### Only quantum holography accounts for whole/part duality that underscores all human-state relationships.

Chengxin Pan 20, Faculty of Arts and Education, Deakin University, Australia, 2020, “Enfolding wholes in parts: quantum holography and International Relations,” European Journal of International Relations 2020, Vol. 26(S1) 14–38

These conceptual problems in the relational turn not only limit the analytical utility of this otherwise promising theoretical turn but also potentially weaken its ontological robustness. In this context, I argue that it is now necessary to put the relational turn in dialogue with the quantum turn in general and its holographic perspective in particular. Quantum holography argues that actors are not just nodes or relata tied together by exogenous relations and networks. Rather, they are relations as well as relata and actors. By envisioning parts (or actors) as always already comprising the whole (and the whole’s various parts and their relations), quantum holography treats relations as the very condition for the being of “things” or “actors,” thus ontologically dissolving the stubborn things/relations binary that has dogged some existing relational analysis. Different from the classical conceptualization of relations as mechanistic mixture, assemblage, or hybridity between parts, quantum holography underscores the relational enfolding of wholes into their constituent parts/actors. Such whole-part duality reminds us of the quantum effect of interference pattern or superposition, with the wave-particle duality of light in quantum mechanics being its best example (Barad, 2007: 85, 265, 269).3

#### Newtonian ontology cannot account for humanity’s intrinsic ability to have internal entanglements that then affect external relations. This destroys the affs ability to promote cooperation because their ontology sees humanity as separate, forever fracturing true global cooperation.

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As illustrated in Figure 1, the Newtonian ontology sees individual entities as the basic units and their relations merely as an external function/effect of their subsequent interac- tion. In comparison, the existing relational literature affords a more prominent role for relations and networks. Nevertheless, relations often continue to be conceptualized as something external to or between solid actors and entities.4 Quantum holography, by con- trast, sees relations as part and parcel of what entities are and may become. That is, Pan 19 relations are already implicated in entities (hence implicate or internal relations) even as entities are also externally linked by (explicate) relations. As shown in the illustration about holographic relationality, inside an entity exist traces of its large whole and its over- all relations, just as inside a seed exist memories and traces of “interactions within the web of life” (Shiva, 2014: 438). Thus understood, an entity is always already relational and its relations are inherent and holographic. It cannot be disentangled or disembedded from the whole or other “entities” in the whole, even if it may appear to stand “alone.”