

AGPhil 15: Alternative Approaches III

Time: Tuesday 9:30–10:30

Location: A 060

AGPhil 15.1 Tue 9:30 A 060

How space-time can emerge as a secondary construct —
 ●EWOUT HALEWIJN — Voorburg; Netherlands

Can space-time emerge as a secondary construct from a deeper level of reality? I defend that it can, even if space-time already looks real enough in itself. I propose an ontology wherein space and time emerge from minuscule triplets. Each triplet consists of one quantum-mechanical measurement result, one Planck time scale duration parameter and a property-less quantum-mechanical observer to behold the first two components.

Firstly, I show that scientific representation gaps can be treated in relativity theory just like in Relational Quantum Mechanics. Secondly, I show that classical observers can be constructed from discrete quantum-mechanical observers in series of triplets. Thirdly, I show that continuous time emerges from discrete series of durations, and space from series of position measurement results. Fourthly, I discuss the relationship between observer-specific information and what looks like "real" space-time to both human beings and measurement devices.

I just defend that in this ontology - in which our universe consists of these triplets - time dilation and space contraction do not entail conceptual problems. The measurement "problem" in quantum mechanics does not look "weird" in it either. The ontology provides an interpretation, but it does not enhance existing theories. Yet it contradicts conventional Western convictions about reality, at least in between measurements.

AGPhil 15.2 Tue 10:00 A 060

From Einstein and Eddington*s Movie to New Materialism: The New Genealogy of Relativity, The Physics of Immateriality and The Immateriality of Physics — ●FADLAN KHAERUL ANAM — University of Indonesia, Depok, Indonesia

Through Einstein and Eddington, Einstein*s Sobral discovery to New Materialism, this paper promises a new genealogy that contrary with the Cartesian rift interpretation on the Einstein*s genealogy of relativity. In Einstein and Eddington, the debate between Eddington and Lodge that associated the defense of Newtonian tradition with Lodge*s child death, and Einstein*s desire for prove his theory after an outburst against. Einstein verified in Sobral, a new conception of cosmology that presenting new consequences for the human race and modern science. New materialism was trying to mediate natural and cultural relations, the ideal and the material with idealizing material, materializing ideal. This gives us the neglected fact: theorization is not only catching externalities, but theorization of space-time is theorization on the material-cultural process of relativity. Genealogically, relativity is not started from the universe, but the first time through observation which is actually a meeting and gluing us and the universe become one, this by idealizing material. This meeting brought together the materiality of the universe with the immateriality of the universe that grows in our reason (I call the physics of immateriality). Materializing ideal, bring our cultural and mix with the previous meeting (I call the immateriality of physics).