

AGPhil 2: Space, Time and Spacetime

Zeit: Montag 16:30–17:45

Raum: SR 113

Hauptvortrag AGPhil 2.1 Mo 16:30 SR 113
Why Einstein Never Really Cared for Geometrization —
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I argue that, contrary to folklore, Einstein never really cared for geometrizing the gravitational or (subsequently) the electromagnetic field. Indeed, he thought that the very idea of geometrization was "meaningless". I will show that instead, Einstein saw the unification of inertia and gravity as one of the major achievements of GR. Interestingly, he did not locate this unification primarily in the field equations but in the geodesic equation, the law of motion of test particles. I will investigate in what sense Einstein thought a "geometrization of gravity" to be meaningless, and how exactly he distinguished it from a "physicalization of geometry" on the one hand, and a "unification of inertia and gravity" on the other.

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Could spatiotemporal objects possibly leave their spatiotemporal locations behind? A further problem about multi-

location — •THORBEN PETERSEN — University of Bremen, Department of Philosophy

According to combinations of spacetime substantivalism and endurantism, persisting spatiotemporal objects are multi-located in spacetime, i.e. located in their entirety at different regions of substantialist spacetime. However, the jury is still out on whether the framework of multi-location is indeed an applicable or even intelligible framework. I here shall develop a simple argument to the effect that the framework of multi-location is indeed inapplicable (to four-dimensionalist spacetimes). The argument, very roughly, is that insofar substantivalism about spacetime implies that spatiotemporal regions are static and insofar substantivalism furthermore implies that facts concerning spatiotemporal location supervene upon (or else are grounded in) facts about spacetime, it is not unreasonable to suggest that the occupiers inherit the static character from the spatiotemporal regions they occupy. Accordingly, occupiers of spacetime regions cannot be meaningfully said to leave their spatiotemporal regions behind, whence it is hard to see how enduring objects could be properly multi-located in spacetime.