# Carnap's Metrical Conventionalism versus Differential Topology

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## Abstract

Carnap′s Metrical Conventionalism versus Differential Topology


Abstract . Geometry was a main source of inspiration for Carnap′s conventionalism. Taking Poincaré as his witness Carnap asserted in his dissertation Der Raum (Carnap 1922) that the metrical structure of space is conventional while the underlying topological structure describes "objective" facts. With only minor modifications he stuck to this account throughout his life. The aim of this paper is to disprove Carnap's contention by invoking some clas--sical theorems of differential topology. By this means his metrical conventionalism turns out to be indefensible for mathematical reasons. This implies that the relation between to-pology and geometry cannot be conceptualized as analogous to the relation between the meaning of a proposition and its expression in some language as logical empiricists used to say.

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