

The concept of invariance has played a central role in the consideration of candidate functions for empirical laws. Such laws typically are assumed invariant under allowable changes in representation of the variables, that is, under certain strictly increasing, surjective transformations that act individually on the variables. The nature of the invariance and the specification of which transformations are allowable may be open to interpretation. In this paper, we present two possible interpretations of invariance, in the spirit of Falmagne and Narens (1983), and we examine the relationship between the two. Our main result is a generalization of a theorem by Falmagne and Narens (1983) which gives a condition under which the two interpretations are equivalent. The generalization was motivated by the observation that there are important cases in which invariance holds under transformations that cannot be written as functions on separate variables. Our results aim at a revised approach to the consideration of candidate empirical laws, one which allows broader notions of invariance to better classify actual scientific laws, some of which may not satisfy certain invariances.