

This article attempts to highlight some of the major developments in the representational theory of measurement during the past 50 years with, perhaps, a somewhat personal slant on what is included. Some emphasis is placed on the ongoing interplay between abstract theory development and attempted empirical applications. The article has three major sections. The first concerns classical representational measurement, which was the successful attempt to formulate the major measurement methods of classical physics: extensive and additive conjoint structures, their distributive interlock in dimensional analysis, and intensive (averaging) structures. The second, which is called contemporary representational measurement, somewhat overlaps the classical one but includes new findings: representations of non-additive concatenation and conjoint structures, the theory of scale types, results for general homogeneous structures, structures with singular points, generalized distributive triples and the possible enlargement of dimensional analysis, and the concept of meaningfulness. The last section concerns two areas of applications of these ideas: psychophysical scaling and decision making under risk.