



How Scientific Problems Shape Theory Development.

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The daily practice of physicists is largely determined by the scientific problems they face. The conceptual analysis of scientific problems and how they change may therefore provide a framework for a detailed analysis of the development of physics. In this talk I will discuss what constitutes a scientific problem, what its elements are, and how they change. I will illustrate the advantages of a more problem-focused approach to understanding the development of modern particle physics, and provide a perspective that may shed some light on the evaluation of open problems and whether they are "genuine" problems. The focus will be on the naturalness problem and its implications for modern particle physics. In particular, it will be argued that the development and assessment of theories beyond the Standard Model of particle physics can be better understood in the context of the rise and fall of the scientific problems that led to them.

