Theory, Observation and Everything in Between: A Whatdunnit to What

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The topic of theory-ladenness has been a fixture of the philosophy of science since the middle of the twentieth century. Put simply, and expressed as a thesis, it holds that observation is laden with theory. As such, it presents a potential threat to the objectivity of science. After all, if what we observe is affected by theories, and those theories vary, then epistemic (e.g. confirmation) judgments based on those observations may not be as neutral and univocal as we would hope them to be. In this talk, we explore some of the most pressing epistemic issues that surround this topic. We begin with a short section on terminology. We then proceed to a section that describes five prominent types of theory-ladenness. Following that is a section that articulates and scrutinises the threat theory-ladenness poses to the objectivity of science. The subsequent section introduces and explores the inverse notion of observation-ladenness. The penultimate section speculates about some impacts AI in science may have on theory-/observation-ladenness. We conclude with a summary of the talk's main points.