

Science as Representation: Flouting the Criteria

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Abstract

Science represents the phenomena and it does so by providing representations of nature with the phenomena at best as a part. Criteria of adequacy for a representation pertain to accuracy and truth; but that representation is selective and may require distortion even in the selected parameters is an old and familiar point, intimately related to the insight that representation is intentional with adequacy relative to its particular purpose. If we add to this that observation and measurement are perspectival and that the appearances to be saved are the perspectival measurement outcomes, the question whether this "saving" is an explanatory relation in contemporary physics can provide a new focus for the realist/anti-realist debate. The Born rule and von Neumann's "collapse" postulate in quantum mechanics provide a telling case.

Keywords: philosophy of science; representation; realism/anti-realism; models and idealization

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Deposited By: [Suarez, Mauricio](#)

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