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The neglected importance of complexity in statistics and Metascience

Statistics is at war, and Metascience is ailing. This is partially due, the talk will argue, to a paradigmatic blind-spot: the assumption that one can draw general conclusions about empirical findings without considering the role played by context, conditions, assumptions, and the complexity of methods and theories. Whilst ideally these particularities should be unimportant in science, in practice they cannot be neglected in most research fields, let alone in research-on-research.

This neglected importance of complexity is supported by theoretical arguments and empirical findings (or the lack thereof) in the recent meta-analytical and metascientific literature. The talk will overview this background and suggest how the complexity of theories and methodologies may be explicitly factored into particular methodologies of statistics and Metaresearch. The talk will then give examples of how this approach may usefully complement existing paradigms, by translating results, methods and theories into quantities of information that are evaluated using an information-compression logic.