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**Modelling Reality (Horses for Courses): simplification is inherently useful but pragmatically different in the fields of astrophysics and healthcare.**

At the heart of good modelling (and reliable inference) is the concept of reproducibility of research results through the process of simplification: simplify, test, simplify and re-test. Steps taken hundreds, if not thousands, of times until consistent, reproducible results occur.

Yet each step takes the original 'empirical data', further and further away from the original complexity of 'perceived reality' that led Rice to write in 1983 "A model is only as good as it's assumptions" and Draper to state in 1987 "All models are wrong, but some are useful".

The current dominant view of what separates a useful/reliable model from an unreliable model is an ability to effectively fit the model with the original empirical data/results. Through openly interrogating the underlying assumptions that frame the interpretation of the model, the simplification of the results (required to create a reliable model) can be addressed to varying degrees. But, and here's the crunch, the communities of astrophysics and biomedicine frame assumptions in markedly different ways. For instance, regarding worst-case scenarios, a 'bad' model of dwarf galaxy formation has a significantly different impact to a 'bad' model in the mortality rate of children.

The presence of these differences offers both an opportunity and a threat. If acknowledged and discussed, shared understanding can lead towards productive joint ventures. But if ignored, may (instead) lead to insurmountable barriers. This paper discusses the key differences, drawing on extensive experience of the two authors working in (Bio)medicine and astrophysics.