Getting to the Information Content of Simulations

- How much information does simulation data contain about a biological process?

- If the simulation data turns out to be highly compressible via some transform, could we then hope to produce the simulation data more efficiently?

- In particular, could we do so, in the absence of prior knowledge of the exact type of compressibility in the final data?

- Suppose we are interested in answering certain high-level queries about the outcome of a simulation.

- The answers will depend on computing certain functionals and predicates on the variables computed by the simulation.

- If we knew in advance these functionals or predicates, could we compute their values, or good approximations to them, without running a full simulation?

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