

Deconstructing Nature: on the fallacy of the Nature=genes paradigm in health research.

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ABSTRACT

The most common scientific paradigm for investigating the Nature versus Nurture debate equates “Nature” with base-pair differences in inherited DNA and “Nurture” with everything else. I argue that this Nature=gene paradigm oversimplifies both Nature and base-pair differences among individuals. This oversimplification can lead to incorrect conclusions about the malleability of differences in disease risk among individuals and groups. For example, when early developmental or intergenerational processes influence Nature, the Nature=genes paradigm misses the importance of environment in shaping in-born health susceptibilities. In another example, when genetic differences are amplified via social mediation, the Nature=gene paradigm misses how disease susceptibilities associated with genetic differences could be attenuated through interventions. Highly heritable health conditions may be more malleable across generations and over time than previously thought, even when the susceptibilities are inborn and non-malleable in the individual or, alternatively, associated with genetic variation.