Tabla de Contenidos

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I make two basic assumptions. First, all information takes a physical form, and second, that everything that is real is dynamical or can be explained in dynamical terms. Something is dynamical only if it involves nothing but forces and flows. It follows that information must be explicable in terms of forces and flows. At first this is counterintuitive, since information is typically thought of as a cognitive, computational or logical notion. However it is possible to bring logic and causation together through a specific analysis if the logic of information flow and a reasonable definition of what it is to make a physical difference, given that information is well characterized as “a distinction that makes a difference” (MacKay 1969), or “a difference that makes a difference” (Bateson 1973: 428). Information theory, then, is fundamentally the rigorous study of distinctions and their relations, inasmuch as they make a difference. The physicalist assumption implies that these distinctions are physical, and the dynamical assumption implies that they make a difference to forces and/or flows. By bringing together causation (which makes a dynamical difference) with the logic of information flow, it becomes possible to see causation as a sort of computation.