Big Bang Theory

Big Bang theory is a scientific model of the universe that posits a state of dense, centralized matter before the current, observable expansion of the universe in one giant explosion. While “the Big Bang” was a phrase first used somewhat facetiously by British astronomer Fred Hoyle in 1949, it rested on earlier theories and observations by George Lamaitre, Albert Einstein, and Edwin Hubble. The implications of Big Bang theory have been far-reaching. For some, the Big Bang’s suggestion of a “beginning of time” lent itself to familiar religious teleology. For others, it provided a rigid, mechanistic model of the physical world, which in turn affected ideas in the social sciences and humanities. This is not to say that Big Bang theory was a “grand unifying theory”—even in the 1920s, the rather precise predictions of Einstein’s theories of relativity conflicted with the conclusions of Heisenberg’s Uncertainty Principle and quantum mechanics. Still, the idea that the physical world exists due to the violent expansion (and subsequent contraction) of matter suggests a rather small place for humanity in the larger scheme of things. There is little room or need for free will in such a system—at least when it comes to matters of large-scale significance. Today, the Big Bang often stands as a euphemism for debates over God and human determinism in the universe, and lends itself to philosophic traditions such as nihilism and existentialism.

Bibliography: Simon Singh, *Big Bang: The Origin of the Universe* (New York: Harper, 2005)

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