

Abstract Submitted
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Stirling Colgate and Gamma-Ray Bursts DONALD LAMB, Department of Astronomy and Astrophysics, University of Chicago — Even before the discovery of gamma-ray bursts (GRBs), Stirling Colgate proposed that bursts of x rays and gamma rays might be produced by a relativistic shock created in the supernova explosion of a massive star. We trace the scientific story of GRBs from their detection to the present, highlighting along the way Stirling's interest in them and his efforts to understand them. We summarize our current understanding that short, soft, repeating bursts are produced by magnetic neutron stars; short, hard bursts are produced by the mergers of neutron star-neutron star binaries; and long, hard bursts are produced by the core collapse of massive stars that have lost their hydrogen and helium envelopes. We then discuss some important open questions about GRBs and how they might be answered. We conclude by describing the recent serendipitous discovery of an x-ray burst of exactly the kind he proposed, and the insights into core collapse supernovae and GRBs that it provided.

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