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The Bottom Line: Cable Telegraphy and the Rise of Field Theory in the Victorian British Empire

BRUCE HUNT, Univ of Texas, Austin

The networks of telegraph wires and undersea cables that began to spread across the world in the 1840s and 1850s had far-reaching effects on commerce and the dissemination of news. They also had deep effects on electrical science. In this paper, I will argue that what might at first appear to be a prime example of pure science—the development of electromagnetic field theory in Britain in the middle decades of the 19th century—was in fact driven in important ways by developments in the telegraph industry, particularly British scientists' and engineers' encounters with puzzling new phenomenon of the 'retardation' of signals that turned up on underground wires and undersea cables in the early 1850s.