



## Nothing: A Very Short Introduction (Very Short Introductions)

By Frank Close

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**Nothing: A Very Short Introduction (Very Short Introductions)** By Frank Close

What is 'nothing'? What remains when you take all the matter away? Can empty space - a void - exist? This Very Short Introduction explores the science and the history of the elusive void: from Aristotle who insisted that the vacuum was impossible, via the theories of Newton and Einstein, to our very latest discoveries and why they can tell us extraordinary things about the cosmos.

Frank Close tells the story of how scientists have explored the elusive void, and the rich discoveries that they have made there. He takes the reader on a lively and accessible history through ancient ideas and cultural superstitions to the frontiers of current research. He describes how scientists discovered that the vacuum is filled with fields; how Newton, Mach, and Einstein grappled with the nature of space and time; and how the mysterious 'aether' that was long ago supposed to permeate

the void may now be making a comeback with the latest research into the 'Higgs field'.

We now know that the vacuum is far from being empty - it seethes with virtual particles and antiparticles that erupt spontaneously into being, and it also may contain hidden dimensions that we were previously unaware of. These new discoveries may provide answers to some of cosmology's most fundamental questions: what lies outside the universe, and, if there was once nothing, then how did the universe begin?

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### Editorial Review

#### Review

‘Review from previous edition: All in all, this book makes for some fascinating reading.’ Chemistry World, Dennis Rouvray.

‘An accessible and entertaining read for layperson and scientist alike.’ Physics World

‘The Void is well worth reading.’ Robert Cailliau. CERN Courier.

‘It covers very complicated concepts in a mostly accessible way.’ Lawrence Rudnick, Nature

‘A fascinating subject covered by a fascinating book.’ Marcus Chown, Focus

#### About the Author

No Bio

Voice actor, writer, and musician RAY CHASE has provides the voices for major commercial campaigns such as Coke Zero, and Top Ten iPhone app successes. He began his career by reading aloud in the car for his mother and sister on the way to school. They didn’t seem to mind so much. He hopes you don’t either.

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