

Boltzmann's Atom

The great debate that launched a revolution in physics

David Lindley (The Free Press, 2001)

- 1 **I. A Letter from Bombay** Waterston story
4 Lucretius derived his atheism from his adherence to ... an atomic theory of the natural world.
5 Examined closely, Lucretius says, the range and variety of all the familiar phenomena of the world about us from invisible atoms zipping aimlessly this way and that. No need for gods to direct events, or inspire actions and consequences.
To believe, as Lucretius insisted, that there were no gods, and that the world proceeded for good or ill quite indifferent to human desires, was by contrast to achieve a measure of repose through calm acceptance.
- 20 Waterston's achievement finally came to light in 1891, when Lord Rayleigh, then secretary of the Royal Society, discovered the lost manuscript in the course of tracking down some old citations.
- 2. Invisible World**
- 22 Loschmidt/Boltzmann Beethoven episode.
23 It was Loschmidt's invention to use double and triple lines to represent, in chemical diagrams, double and triple bonds.
- 83 Due to Maxwell's demon, "clearly there must be sets of atomic motions that behaved differently. B must have gone wrong.
- 86 Mach evolved a philosophy of science according to which observations and data were primary and theorizing was intrinsically suspicious.