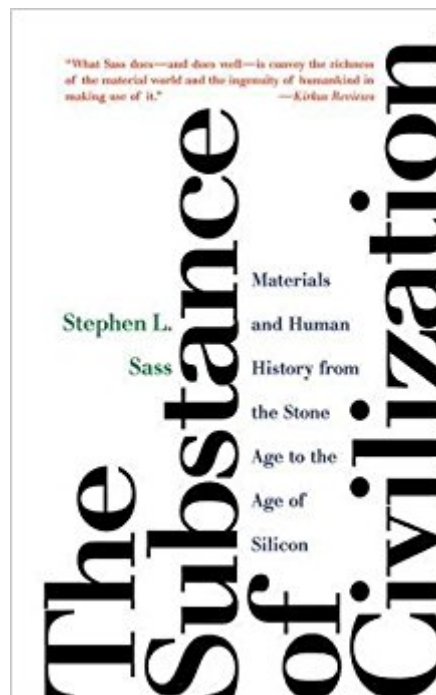




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# The Substance Of Civilization Materials And Human History From The Stone Age To The Age Of Silicon



## Synopsis

The story of human civilization can be read most deeply in the materials we have found or created, used or abused. They have dictated how we build, eat, communicate, wage war, create art, travel, and worship. Some, such as stone, iron, and bronze, lend their names to the ages. Others, such as gold, silver, and diamond, contributed to the rise and fall of great empires. How would history have unfolded without glass, paper, steel, cement, or gunpowder? The impulse to master the properties of our material world and to invent new substances has remained unchanged from the dawn of time; it has guided and shaped the course of history. Sass shows us how substances and civilizations have evolved together. In antiquity, iron was considered more precious than gold. The celluloid used in movie film had its origins in the search for a substitute for ivory billiard balls. The same clay used in the pottery of antiquity has its uses in today's computer chips. Moving from the Stone Age to the Age of Silicon, from the days of prehistoric survival to the cutting edge of nanotechnology, this fascinating and accessible book connects the worlds of minerals and molecules to the sweep of human history, and shows what materials will dominate the century ahead.

## Book Information

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## Customer Reviews

Although the author and his publisher committed the unforgivable sin of omitting an index, The Substance of Civilization indeed contains much of substance and is a good starting place to develop an appreciation for the history and nature of materials science. --This text refers to an out of print or

unavailable edition of this title.

The word civilization brings images of the pyramids of Egypt, Greek temples, or great libraries and museums to mind, monumental structures that not only reflect idealized social order but offer evidence to support Sass' claim that "materials guided the course of history." None of these awe-inspiring constructions or their contents would have been possible without the ingenious manipulation of raw materials. The symbiotic relationship between the shape of culture and the evolution of technology is acknowledged in terms such as the Bronze Age, and Sass, a professor at Cornell University and a writer of both affability and precision, bridges the divide between history and science as he explains the unique properties of such key substances as clay, iron, glass, polymers, and silicon, and how they have affected every aspect of civilization from warfare to religion, politics, education, art, and economics. Noting the direct correlation between the complexity of any given society and the sophistication of the materials it uses, Sass provides diverse and illuminating examples with unflagging and infectious enthusiasm. Donna Seaman --This text refers to an out of print or unavailable edition of this title.

Light and Interesting introduction to the historical technologies behind metals, glass, plastics, and other materials. The exposition was generally non-technical with a strong emphasis on how these materials influenced people's lives. It is studded with quotations, many from the Bible and other ancient sources, illustrating the roles metals and other substances played in the lives of people in the past. I am very grateful for a clear and lively account of the development of iron and steel, in particular. I hadn't understood, until I read this book, that cast iron is a form of iron that though brittle when hard, melts at a relatively low temperature making it relatively easy to pour into molds. The development of furnaces capable of melting steel is a very recent development. I would have liked to see more semi-technical information on the physics of these materials and the chemistry of how they were produced and extracted. There were a handful of figures but there weren't enough of them and the ones that did exist weren't very clear in the Kindle edition.

I thoroughly enjoyed this book and learned a lot from reading it. I've always been curious about how civilizations developed and why they did, where they did. This book provides a an excellent summary of those issues, putting some life into history. The history I was taught was basically facts, dates, and names always leaving out the how and why. This book helps fill those gaps and does it in an easily readable manner. My congratulations to to the author on a fantastic piece of work that

should be read by history majors. History is taught from economic, political, religious, and secular perspectives in most cases as if the other aspects didn't exist, and yet all those factors are intertwined. This book overcomes that by treating the development of civilization as a complete entity tying all the pieces together.

I am not a person that would normally read something this technical, even not understanding all the jargon, I was taken by how the Substance of Civilization moved me through time to the present was so revealing. Thinking of ingredients I use daily being such an integral part of the development of the world was a bit mind boggling. Perhaps not written for a 6th grade level but easily understood. Thanks Mr. Sass.

Combines history, real world, sheer chance, sweat of invention, Biblical reference, with actual experience to create perhaps the most fascinating reading I had done in years. This book is not one you read and forget the plot in few hours but actually causes you to think about what's around you and how it was created. Our houses while they think are modern are actually built in much the same manner and with materials invented thousands of years ago. A Brick anyone!

Very good read, every student in primary school should read this! As well as those that work with materials.

A great book that looks at the history of materials (mostly metals) and mankind. I liked it, but it may not be for the right brain reader.

This book is a very thorough account of each stage of civilization and how increasing complexity in the use of materials facilitated advances in technology throughout human history. I liked the way the author described in detail each increment in materials used for tools, weapons and infrastructure. It got increasingly complex toward the end, making it more difficult to thoroughly understand, but that only emphasized the incredible ingenuity of the human mind.

An excellent read, giving a history of civilization in terms of the advances in the materials we use to make things. There is some science in there, but it's presented in such a way that it shouldn't intimidate readers without a technical background. The author has clearly found a book that wanted to be written, and which fit his knowledge pool.

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