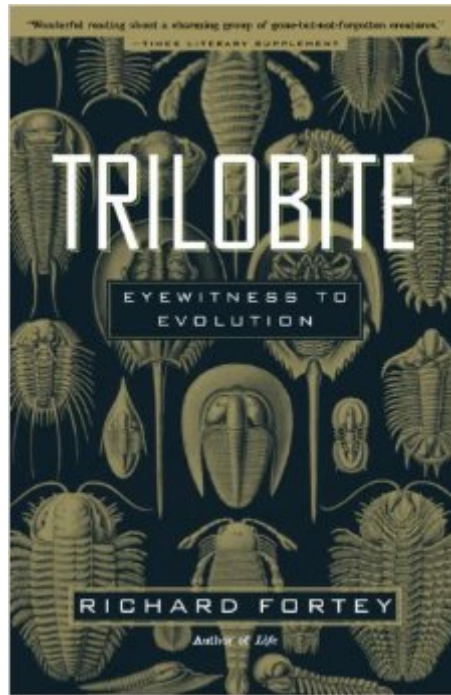


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Trilobite: Eyewitness To Evolution



Synopsis

With *Trilobite*, Richard Fortey, paleontologist and author of the acclaimed *Life*, offers a marvelously written, smart and compelling, accessible and witty scientific narrative of the most ubiquitous of fossil creatures. Trilobites were shelled animals that lived in the oceans over five hundred million years ago. As bewilderingly diverse then as the beetle is today, they survived in the arctic or the tropics, were spiky or smooth, were large as lobsters or small as fleas. And because they flourished for three hundred million years, they can be used to glimpse a less evolved world of ancient continents and vanished oceans. Erudite and entertaining, this book is a uniquely exuberant homage to a fabulously singular species.

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Customer Reviews

The very best science book for laymen is the book that is written by an expert in a field about his favorite area of expertise. So it is a delight to read *Trilobite! Eyewitness to Evolution* (Knopf) by Richard Fortey. Fortey is surely an expert; he is a senior paleontologist at the Natural History Museum in London, and has done extensive research in fossil fields all over the globe. His favorite specimens (he refers to them as "my animals") are trilobites, and reading his lucid, humorous, enthusiastic pages, one can certainly understand why. Fortey writes with humor about his adventures in the field. He has hunted trilobites everywhere on the globe, in desert as well as arctic wastes. But of course, most of Fortey's book is about the trilobite itself. The name comes from its three lobes, not head, thorax, and tail, but the central body axis flanked by the left and right pleural regions. It was originally thought to be some sort of flatfish, but as more specimens were found, it

became clear that it was an arthropod, with the nearest living relative the horseshoe crab (although they look more like the woodlice or roly-poly bugs, and some balled up like them). What is generally fossilized in trilobites is the outer upper shell. The underside, with the legs, is thin cuticle that decomposed before fossilization could take place. It was only when specimens were found from a certain field in New York state that details of limbs became plain. Because of a peculiarity in the minerals of the area, the thin cuticle had become gilded with pyrites, fool's gold. Every segment was shown to have a pair of branched legs, and the creature even showed antennae. Fortey's chapter on trilobite eyes, the only ones ever to use calcite prisms for lenses, is amazing.

This is a remarkable book that will introduce you to the process of science and a fascinating aspect of the emergence of life. Trilobites are among the best fossils for children to get to know because they are very distinct (the tri lobed shells) and very different from anything currently living (the horseshoe crab on American Atlantic beaches is comparable in unique appearance and attracts children with similar fascination). For those who want a better system of American science education, Fortey gives some powerful hints. Consider his language: "The fever of discovery was upon me.... I found a trilobite...the textbook came alive...this was my first discovery of the animals that would change my life (p.18)." He continues, "I knew, by some principle which I could not articulate, that the wider end was the head of the animal. And of course upon the head there were the eyes. Despite the unfamiliar conformation of the fossil I knew that eyes must always belong on heads. So despite the exoticism of the fossil there was already a common bond between me and the trilobite - we both had our heads screwed on the right way."(p.19) Again and again Fortey reminds us that scientists grow from discovery, mystery, romance, intrigue, while the memorization comes later. He reminds us that there is an enormous amount we still do not know and in the process introduces us to a world we have never considered: "I want to invest the trilobite with all the glamour of the dinosaur and twice its endurance. I want you to see the world through the eyes of trilobites, to help you make a journey back through hundreds of millions of years...this will be an unabashedly trilobite-centric view of the world,"(p.19).

This is a wonderful book! Trilobite! Eyewitness to Evolution is a skillfully crafted narrative that displays Fortey's impeccable scientific credentials and his engaging and highly entertaining style of writing. Readers unfamiliar with these remarkable creatures and their 300 million year history will benefit from well organized chapters that explain the physiology, life habits, evolutionary patterns and geological time line with insight and clarity. Those readers with a better understanding of the

class Trilobita, will enjoy the personal observations and anecdotes of a superb writer, who just happens to be a leading authority on the subject. Fortey even tackles the role of ombudsman in his attempt to soften the contentious battles between Simon Conway-Morris and Stephen J. Gould over those controversial early arthropods and other creatures of arguable affinity. I applaud his restraint and gentle hand in dealing with the emotional fervor of his contemporaries. If I have any criticism of this book, it would be to step on to the soapbox and point out that Fortey details the moment when he chipped out his first trilobite at age fourteen as an epiphany that determined his life's work. He discusses Walcott and other self-taught geologists and paleontologists who started as eager young fossil hunters. Sadly, in several places throughout the text, Fortey explains that these sites are now closed to collecting. Typically, these closures are to protect the area from the hammers of interested collectors (with special emphasis on those who might profit from the sale of their collections) in the misguided notion that invertebrate fossils are national treasures that must be protected for all through restrictions and the intervention of government agencies.

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