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# Earth at Risk by Claude Henry and Laurence Tubiana

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## BOOK REVIEW

***Earth at Risk*** by Claude Henry and Laurence Tubiana (Columbia University Press, 376 pages: 2017)

*Earth at Risk* provides gripping illustrations of climate change impacts around the world to demonstrate the importance of understanding future threats and preventing global disaster. Written in 2018, *Earth at Risk* provides a current analysis of climate change issues including biodiversity erosion, water and soil scarcity, energy (alternative and otherwise), and sustainability. Despite dense material towards the end of the book and a somewhat confusing layout, the authors make complicated climate change theories palatable to the general public with a coherent explanation of the scientific method and its applications, articulate social and political analysis, and clearly demonstrative anecdotes. *Earth at Risk* thus delves into the heart of climate change issues and breaks each concept down into bite-sized bits to emphasize the importance of each element and its serious impact in climate change.

The first half of the book provides an overview of the erosion of biological diversity, water and soil scarcity, fossil fuels, and alternative energies. The authors begin broadly, discussing the dangers of the trend of declining biological diversity. There are several threats that contribute to the erosion of diversity, such as the destruction of natural habitats and to voluntary (or involuntary) introduction of alien species. The authors then move on to discuss the political, social, and socio-economic impacts of water and soil scarcity. This is a topic rife with political and socio-economic factors, despite water being proclaimed a human right. The book then examines energy production and its harmful effects on the earth. The authors discuss each fossil fuel independently, a novel way of approaching the issue of fossil fuels. Because coal, natural gas, and oil have different production methods, costs, and climate impacts, it is important to distinguish them and their impacts. The authors then discuss alternative energy sources individually, evaluating the current challenges and future projections of success in each alternative energy sector.

The second half of the book bounces between scientific, historical, and political analyses of climate change, beginning with a historical perspective in the United States in 1978.

The authors then move on to discuss the scientific method, providing readers with a background on how the scientific method developed and how it can be used to evaluate the effects of climate change. In the following section, the authors advocate a balance of science and nature to address the issues discussed in the previous chapters. The section focuses on approaches to transition from fossil fuels to alternative energies, including a maximization of energy savings, the innovation of solar cells, and the creative solutions for other alternative energy storage devices. The authors enhance these ideas by providing several examples of innovations that improve fuel efficiencies and alternative energy efficiencies. From there, the authors evaluate scientific uncertainty and fabricated uncertainties relating to climate change issues. The authors make sure to point out the difference between scientific uncertainties and uncertainties that are promulgated by parties adverse to the idea of

climate change. The authors are quick to point out that climate change deniers are influenced very intentionally, just like the Tobacco Strategy, a convincing anecdote. The final half of the book discusses the complicated social and political dynamics at play when attempting to construct policy to combat climate change.

The consistent use of anecdotal explanations creates a scenario understandable to a layperson. The impact of the climate change becomes more focused and understandable through anecdotes rather than in being lost in overly-intellectual scientific terms. This strategy makes the book more approachable and readily demonstrates the seriousness of the situation to a variety of readers. Using anecdotal explanations is also a longstanding tradition that oftentimes provides a bigger emotional impact than other methods of explanation and resonates better with a larger group of people. One particularly ominous example was the discussion of the decimation of the Amazon rain forest and the devastating future effects in the first chapter. The authors provide a brief historical background to demonstrate the quick effect that construction of roads and deforestation wrecked on the Amazon's clearances since the 1960's. The authors describe Brazil's attempts to reduce deforestation, but also point out the dangers of the continuous regression of forest cover. Some dangers include wildfires due to the drier dry seasons, which would "spew out more than a decade's worth of fossil fuel emissions" (*Earth at Risk*, p.24). The authors then go on to describe similar deforestation problems in other parts of the world, such as the Congo River Basin, and the rain forests of Southeast Asia. These examples provide in depth analysis of issues that readers may have heard of, but never learned about in detail.

The explanation of the scientific method and the current approach to learning about climate change provides a convenient base for readers to understand scientific findings on the impact of climate change. The fifth chapter introduces the concept of the scientific method and provides a historical analysis to give context on how scientific discoveries have been made, especially in regard to climate change. This provides a background for the following chapters which deal with more dense scientific information. It is useful, especially for readers who may not have any background in climate change, to understand how science has evolved and what methods are used in researching.

Overall, though, the layout of the book, though effective in its contents, is somewhat jolting and counter-intuitive to what readers may expect. It is interesting that the authors chose to place all of the denser scientific, political, and historical chapters at the end of the book. Perhaps the information would be more useful for readers to understand from the beginning and to a variety of readers to be able to use those educational tools to interpret the climate change arguments addressed in the remainder of the book. It seems almost disjointed to go from interesting, engaging climate change discussion to discussing the history of the scientific method and dense political and social analysis. The book, overall, would flow better if the sections discussing science served as a beginning framework to understand the anecdotes in the beginning more effectively. Additionally, if the dense material were more interspersed with the more relatable anecdotes the book may have been an easier read and more appealing to a wider group of readers.

Despite its counter-intuitive, sometimes dense, layout, *Earth at Risk* provides understandable scenarios that convey the grave situation the planet is in.

The authors use anecdotes to effectively demonstrate the devastation that climate change has wrecked on different aspects of biological diversity, habitation, and plant and wildlife. Using illustrations to make the effects of climate change more impactful, the authors create a text that is appealing and educational to a large demographic.

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