he asks, can 'covetables' such as high-end chairs or guitars be designed too with sharing in mind? Perhaps Zimring's ultimate lesson from the history of designing with aluminium is that cultural and personal value is rarely separable from technical value. Applying historian David Lucsko's argument about the value of vintage cars more broadly to all 'covetable' consumer goods, Zimring writes in his chapter on aluminium vehicles,

> Good design should create functionality and connection with the user. Although vehicles may be rendered less efficient due to use, emotional attachments may extend their lives as durable goods either through repair of the working vehicles or as museum pieces on display. This complication is relevant in the consideration of recycled materials as technical nutrients in a closed loop of resources in an industrial economy (p. 101).

All told, in *Aluminum Upcycled* the metal emerges not just as a single resource or even a technical nutrient but as a multidimensional object: its design potential not only leads to lighter planes and trucks, but also to an understanding of scrap metal and more broadly 'junk' as not only useful but potentially upscale-able.

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Lisa Vox, **Existential Threats: American Apocalyptic Beliefs in the Technological Era.** Philadelphia: University of Pennsylvania Press, 2017. Pp. xvi + 266. ISBN 978-0-8122-4919-4. $55.00 (cloth).
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Authors of popular books on existential threats and global catastrophic risks tend to construct one of two narratives: either they focus on one particular fear, with the author explaining which one he or she thinks poses the highest risk, or the reader is shown frameworks to integrate planetary boundaries and definitions of global catastrophes. Thus several authors have addressed existential perils from a global approach, for instance, Seth D. Baum and Itsuki C. Handoh, in 'Integrating the planetary boundaries and global catastrophic risk paradigms' (2014), use a boundary risk for humanity and nature framework of handling human impacts and defining global catastrophes. Robert Wuthnow has written *Be Very Afraid: The Cultural Response to Terror, Pandemics, Environmental Devastation, Nuclear Annihilation, and Other Threats* (2010) and Daniel Sullivan explores psychological frameworks that reflect responses to threats in *Cultural–Existential Psychology: The Role of Culture in Suffering and Threat* (2016). On the other hand, some other authors have explored global suffering and imminent perils addressing one particular threat. Brian Schimmoller, in 'Existential threats' (*Power Engineering* (2013) 117(3)), explores the challenges of nuclear power plants; he provides the example of the Fukushima incident and seismic hazards. Jessica Wolfendale analyses the narrative of terrorism as an existential threat from 9/11 in *The Narrative of Terrorism as an Existential Threat* (2016). There is some work on responses to possible global supply catastrophes, existential threats in Europe and the nature of Israel as a country. However, Lisa Vox in *Existential Threats* offers a unique approach in analysing historical, religious and scientific resonances of apocalypticism in American consciousness.

Lisa Vox is an American history specialist and her exposition presents a lucid overview of American visions of the apocalypse from 1859 (when *The Origin of Species* was published) until nowadays. Its newness lies in its interpretation of apocalyptic fantasies in the United States; it is stated that Americans' visions and rhetoric of doomsday scenarios have parallels between two allegedly competing visions of the world, religious apocalypticism and scientific ideas. Through assembling a comprehensive array of science fiction films, biblical tractates, fiction and non-fiction literary works and political trends, Vox reflects on ongoing debates on

the issue of agency and authority in American scientific, technological and religious discourses, whilst providing the reader with interwoven narratives of enthralling and evolving apocalypses that are and have been in the American imagination. At the same time, she contextualizes her thesis with those of other modern scholars, like Ronald L. Numbers, who has similarly argued against the so-called 'conflict thesis' between science and religion (p. xi).

In a preface and seven chapters, Vox argues that the similarities between scientific and religious discourses outshine their differences, and her work successfully encompasses both world views harmoniously. Vox's preface states her thesis statement and informs the reader of her familiarity with American dispensationalist religion. She notes in the book's preface that she grew up 'during the Reagan era in a Southern Baptist stronghold', 'where dispensationalist premillennialism bathed my childhood in apocalyptic anxiety' (p. ix). This is a crucial starting point because whilst this reviewer and other non-evangelicals might find some premillennialist ideas hard to take seriously, for many within American culture dispensationalist concepts on the Antichrist or the Rapture are a reality and they constitute the basis of this work, along with scientific and historical frameworks. In seven chapters, Vox gives a roughly chronological overview of the history of the United States, linking in a structured way the scientific and political discourses with media and literature, with religious overview and a chapter conclusion that links both points of view together. The reader is asked to follow this thread and to wait for the common contextualization of the arguments at the end of each chapter.

In her first chapter, Vox presents *The Origin of Species* as the starting point of her discussion. Vox argues that the notion that evolution means that humans might not exist in the future lays the grounds for the birth of the scientific apocalyptic discourse. Shelley's *Last Man* (1826) and Byron's poem 'Darkness' (1816) suggest an end of the world without design, and American Gothic writers like Poe, Chambers and Lovecraft talk about the 'inexplicable and nightmarish' (p. 12) too. According to Vox, this laid the foundation for the later scientific apocalyptic fiction. This is also parallel to Darby's discourse, who as a former priest in the Church of Ireland spread dispensationalism to other premillennialists in Britain and the United States. From here onwards, Vox will claim that from the 1830s '[d]ispensationalism provided such a framework for incorporating science and current events' (p. 15). She shows how both conservative evangelicals, who encouraged a systematic interpretation of the Bible, and scientists in the wake of Darwin's *Origin of Species* intended to answer the same questions.

The second chapter encompasses the time frame from the Second World War to the atomic bomb. While the United States became more powerful, concerns about racial displacement and the 'yellow peril' were raised (p. 23). Vox claims that whilst British fiction is pessimistic, Americans still expressed faith in a technological future. For instance, Vox provides the example of Hugo Gernsback, who, in his magazine *Amazing Stories* (1926), wanted to educate readers about science. This is parallel to premillenial fiction in the 1930s, when Eleanor De Forest incorporated technological advances into descriptions of the apocalypse. However, Vox explains that most conservative evangelicals maintained an emphasis on the supernatural, whilst including a discussion of the scientific and religious discourses.

Chapter 3 marks the first existential threat to penetrate the public's consciousness – the atomic bomb. Vox points out that narratives on species replacement and mutations created by radioactivity were a worry, and alien invasion fantasies in the 1950s became more popular. However, American nuclear fiction tended to end with a renewed hope for the future, such as Morrison's portrayal of the end of the world, that contained visions of the Armageddon, and how Americans would prevail. Both discourses expressed a faith in science and technology, whilst the imminence of Christ's return would also be a chance for humanity to cleanse its failings.

Chapter 4 – 'Spaceship Earth' – focuses on Americans' environmental deterioration concerns between the 1970s and the 1980s. Rachel Caron's *Silent Spring* (1962) is presented as a book that includes a scientific and apocalyptic vision. The environmentalist movement is thought to

have been created by the nuclear fears from the past. Vox argues that environmentalists used the same apocalyptic language to enter the public consciousness, precipitating an undermining of scientific authority.

The last three chapters take us from the 1980s to the present. Chapter 5 of the book focuses on Reagan's policies and how he made at least eleven statements suggesting that Armageddon was near during his first term. It seems that Vox wants to claim that Reagan is the epitome of the apocalyptic political discourse of the time, both encompassing political discourse on nuclear weapons – 'peace through strength' (p. 128) – within a moral discourse on good and evil, calling communism 'the focus of evil in the modern world' (p. 132). At this stage, the government did not support environmental reforms and some conservatives also downplayed environmental problems. This shows how scientific discourse was being questioned. Chapter 6 touches upon how Bush's government did not sign the Kyoto treaty, and how after 9/11 nuclear anxiety receded in favour of environmental worries. Saddam Hussein was associated with the Antichrist and there was disagreement in religious circles on whether technology was evil or should be praised. Finally, Vox claims that from 9/11 to the present, there was a common discourse representing the United States in decline at the same time as Al Gore's film *An Inconvenient Truth* (2006) was extremely influential in raising awareness of climate change.

*Existential Threats* ends the last chapter on a note on new technologies. This is a clever approach and ensures that her argument brings technological advances and morality up to date. Vox moderates her political claims carefully, and she proposes that the Internet is 'breaking down moral distinctions between nationalistic governments' (p. 193). This ensures that the most important contribution is left for the end of her work. Participatory cultures bring two antithetical world views together again and open the cultural divide. Overall, Vox's explorations are often impressive; she has researched a wide range of sources and her comprehensive treatment of them is very detailed. In the light of her claims, I believe that this work provides an invaluable overview of America's literary trajectory, with its culture of apocalypse from *The Origin of Species*. Her claim is both compelling and current.

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Rana A. Hogarth, **Medicalizing Blackness: Making Racial Difference in the Atlantic World, 1780–1840**. Chapel Hill: University of North Carolina Press, 2017. Pp. xx + 268. ISBN 978-1-4696-3287-2. $27.95 (paperback).
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Underlying cultural assumptions are notoriously difficult for any historian to establish. However, Rana Hogarth's recent work *Medicalizing Blackness* offers an adept insight into how such rarely enunciated thoughts might be teased from the historical record. Hogarth uses these insights to argue that 'investing racial difference with practical medical use' (p. xv) helped to solidify the position of the medical profession in the late eighteenth and early nineteenth centuries. In doing so, she maintains that physicians had professional rather than political reasons for medicalizing blackness. Unlike Andrew Curran's *The Anatomy of Blackness* (2011), this work separates the medicalization of racial difference from concurrent debates over the continuation of the slave trade. As such, Hogarth demonstrates that the othering of black bodies within medical literature was conducted without reference to pro-slavery and abolitionist stances.

Beginning with a focus on yellow fever, Chapters 1 and 2 explore the idea of innate black immunity to tropical diseases. Chapter 1 traces the initial development of the concept of innate black immunity and examines the ultimately disastrous consequences of using such a claim to inform disease management. Hogarth then explores the different ways in which physicians reconciled instances of yellow fever within the black community with the concept of black immunity.