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Stephen J. Pyne, *Fire: A Brief History*, second edition (Seattle, University of Washington Press, 2019), 240 pp.

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Though the title foregrounds the exothermic reaction at the heart of this book, the contents mainly focus on life and living systems, making *Fire* a relevant and important text for *Ecozon@* readers. The text's fundamental perspective is stated early on, when Pyne delivers the basic but vital insight that without life, there is no fire: the fuel necessary for fire is, always, living (or formerly living) matter. Fire depends on life, and increasingly, life depends on fire. This interdependent relationship is traced over the course of 500 million years. The text presents a history that places the ecology of fire so convincingly at the heart of life, ecosystems, and human evolution, that one wonders how anyone working in the environmental humanities can do without such foundational knowledge about how life on earth works. *Fire* is a scientific reimagining of fire as an elemental force.

So yes, *Fire* is ambitious. It functions as a broad overview—or, as William Cronon puts in the foreword, as a “road map” (xii)—of Pyne’s five-volume Cycle of Fire series. This new edition adds a chapter dealing with fire in the new millennium that engages with recent wildfire events, evolving forestry practices, and the concept of the Anthropocene. This expanded “road map” attempts to cover a lot of material in a relatively short amount of space. Beginning with the Earth before the evolution of life and proceeding to our present day, the book literally traces the entire history of life on earth. Ambition is good, but it can have its drawbacks. Here, the drawbacks include a tendency to deal in generalities. Broad claims are left unexplained or unsupported. Important or interesting histories are sped past in a few sentences. This book probably succeeds in its purpose: giving us a comprehensive history of fire on earth in one small volume. But in order to succeed in that purpose, it often sacrifices the kind of fine-grained details that make a history come to life.

The book designates three types of fire: natural, anthropogenic, and industrial. Proceeding chronologically, only the first chapter focuses on “natural” fire (i.e., fire sparked by lightning, volcanoes, or other non-human sources of ignition). This chapter traces the concurrent births of fire and suitable land-based plant life around 420 million years ago, briefly explaining some of the ways in which evolution has been shaped by the presence of fire. Convincingly, this chapter makes the case that fire is one of the primary ecological forces influencing the evolution of life on earth. Even further, it makes the case that fire is part of life: if fire consists of fuel, oxygen, and heat (xv), then two-thirds of its

components are derived from life. Only the heat, the spark—lightning—is independent of the biosphere (7). Fire and life are interconnected and interdependent.

After just one chapter, *Fire* moves on (too quickly, in my opinion) to its main focus: the role of fire in human history (or, if you like, the role of humans in fire history). The introduction eloquently states that fire functions as an index to “the awesome, stumbling, unexpected, implacable, fascinating course of humanity’s ecological agency” (xvii). And so ten of the eleven chapters focus almost entirely on the mutually constitutive histories of humanity and fire. Of course, humans have been such a profound ecological force, touching every ecosystem on the planet, that this human-focused history is central to natural history more broadly. Pyne convincingly justifies this anthropocentrism by asserting that, since our ecological footprint is everywhere, so too is every fire at least partially anthropogenic. “Natural” or “first” fires are pretty much nonexistent anymore.

Beginning with the idea that “charcoal is the spoor of early hominins,” Pyne traces the role of fire in humanity’s spread out of Africa and around the globe (30). His guiding thesis through these chapters is that fire dictated human migration and behavior, as fire was the primary tool whereby humans shaped ecosystems to their advantage. Despite the terminology that draws a distinction between “natural” and “anthropogenic” fires, Pyne’s perspective through the ten human-focused chapters is one that tends to erase the culture-nature binary (and consequently, the urban-wild and human-non-human ones as well). Human, non-human life, and fire are all taken together as ecological actors influencing, fighting, and depending on each other.

Later chapters move from the first great human migration to the rise of civilizations and, later, the rise of urban, industrial societies. Pyne explores the role of fire in European imperialism, as it was their “ecological enabler” that allowed them to export their style of agriculture anywhere in the world (140). At the same time, both indigenous human and non-human populations demanded that European practices be modulated to fit into a new ecosystem and new culture. The result was, typically, that everything changed: native ecosystems, indigenous cultures, and European agricultural practices. Fire was, as always, central to this dynamic.

Finally, the last chapters address the last big innovation in fire: the burning of fossil biomass. Pyne traces the central role of fire in the industrialization of the world, calling ours a “pyrocivilization” (133). Everything we are depends on burning, but the crucial difference with this industrial or “third” fire is that it is almost always hidden away in secret chambers, within furnaces or inside engines. The open flame has all but disappeared, especially from urban areas. Thus, fire has largely receded from our awareness, but Pyne is doing all he can to remind us of fire’s status as a profoundly important ecological process, both as a driver of evolution and as a driver of human history.