

Fire's Cycle and Pyne's History¹

Stephen J. Pyne, *Fire in America: A Cultural History of Wildland and Rural Fire* (Seattle: University of Washington Press 1997); Stephen J. Pyne, *World Fire: The Culture of Fire on Earth* (Seattle: University of Washington Press 1997); Stephen J. Pyne, *Vestal Fire: An Environmental History, Told Through Fire, of Europe and Europe's Encounter with the World* (Seattle: University of Washington Press 1997).

The vision of earth, framed by a dark space, showed Europe glittering in a riot of flashing points and Africa glowing like an ember across its sub-Saharan width. That was how a NASA satellite camera captured the planet in one of its night-time passes in 1975. During the day, Europe retreated to a green and black slumber, while Africa was hidden under a canopy of smoke that stretched into the Indian Ocean. Agricultural and industrial fire brushed the earth with paints of different textures, intensities and residues. The photograph produced a pointillist Europe and an impressionistic Africa.²

From space, these stark signals of human presence suggest the importance of a subject that is invisible by its familiarity in everyday life. Fire surrounds us; it mediates our relationship with the rest of nature. But does it have a history?

Fire is the product of the appropriate combination of oxygen, fuel and heat. It is a physical process, and at first glance, would appear to be timeless. Yet if the causes of fire may be universal, the contexts in which it is produced, organized and perceived change over time and across space. Students of fire call these contexts fire regimes. They are the complex of climate, flora and ignition sources that shape dominant patterns of fire occurrence in a given landscape. Humans play a role in creating fire regimes by altering floral ensembles and supplying ignition. They also draw on fire in complex cultural histories of perception, landscape change, economic growth and ruin. Fire history thus seeks to pair natural and cultural history, weave the two and suggest new patterns of causation and change.

Stephen Pyne is the historical profession's poet laureate of fire: he has introduced environmental historians to the long term importance of fire in planetary history and pioneered a unique approach to the writing of history that seeks to transcend arbitrary divisions of nature and culture. The appearance of *Vestal Fire*, his fourth book about the history of fire on earth, marks the completion of a "Cycle of Fire." The cycle consists of a suite of books published in the University of Washington Press's Weyerhaeuser Series in Environmental History, edited by William Cronon. Now that the cycle has burned from kindling

to embers, it seems appropriate to re-examine the importance of fire history in environmental historiography and consider how Pyne's scholarship, like his subject, has grown and returned to its origins.

When *Fire in America* first appeared in 1982, it was received as an important contribution to the new environmental history. It differed from other significant monographs in this emerging genre. Unlike William Cronon's *Changes in the Land*, Donald Worster's *Dust Bowl*, or Richard White's *Land Use, Environment and Social Change*, *Fire in America* resisted a declensionist paradigm and examined environmental change across a wide geographical canvas and time scale.³ Whereas these other works sought to focus attention on communities or regions, in order to tie social and environmental change in strict relationships of causation, Pyne proposed to examine the American experience with fire from first settlement to the mid-twentieth century. In truth, these borders were too narrow still and the text included short tangents into the mythology of South Asia, the role of fire in early Greek culture and the place of fire in the cultures that crossed the Bering land bridge. Ostensibly a national history, Pyne's America proved to be the site of a fusion of international influences worked out in relation to a unique set of regional environments. In retrospect, this drawing together of fire's world history in the context of America points to Pyne's later interests.

The result was a book of Promethean ambitions: it charted the natural causes of fire, the use of fire in aboriginal cultures, the creation of distinctive agricultural fire regimes in the early modern period and the transition to industrial fire in the late nineteenth century, marked by the rise of modern fire control.

Pyne wrote fluently and at length about a subject he knew from experience as well as scholarship. Having worked as a fire fighter for sixteen years on the Grand Canyon's North Rim, his evocations of major forest fires and their apocalyptic appearances took on more than a casual familiarity; they were filled with excitement and dread. Pyne's engagement with the practice of fire control also provided the critical basis for his re-assessment of fire's history as an ecological phenomenon.

The historiography of fire in the United States before *Fire in America* consisted of memoirs and capsule histories of heroic agencies taking control of rogue nature. They were the echoes of progressive conservation and never blushed when describing Gifford Pinchot's beneficent foresight or the masculine power of fire fighters beating back the flames. By contrast, Pyne incorporated new developments in the science of fire management to question this heroic narrative. During the late 1960s a re-examination of the ecology of fire was

occurring in land use agencies, forestry departments and National Parks in the United States. Instead of casting fire as an aberrant intruder in landscapes which inevitably created degradation and only that, scientists were attempting to understand how patterns of fire occurrence over decades helped to shape ecosystems into relationships of resilient stability. How do fires create as they destroy was the central question. Ecologists considered how fires recycle nutrients, create landscape mosaics and regenerate forest and field. New attempts at a policy level sought to remove prohibitions on wild fires in National Parks and implement forms of controlled burning by land use agencies. Fire's image, in short, underwent a period of rehabilitation. These were the intellectual currents that Pyne re-directed on to the past in order to revise historical understandings of fire's place in the environmental history of American life. The heroic narrative was replaced with a Faustian tale.

Modern fire control, Pyne suggested, exacerbated the conditions it sought to control. Despite increased attempts to regulate land and remove fire, the industrial era experienced massive conflagrations, greater and less predictable than previous fire regimes. The shift from biomass burning to fossil fuels and fertilizers reduced the routine burning of forest and field. The result was an increase over decades of latent fuel loads in the environment. Cross-cutting these conditions were new forms of ignition: cut-over forests on America's lumbering frontiers, for example, provided beds of slash prone to the flame, while railways, fanning out across the landscape, produced sparks in all directions. The combination of changed fuel conditions and industrial sources of flame reworked pre-existing fire environments, producing industrial fire regimes. These were the regimes that modern fire control was invented to suppress. Yet, the main purpose of fire control — stopping fire when it occurred — only served to reinforce the underlying conditions that allowed for large scale burning. As fire control stopped minor fires, it placed fuel aside for the next burn. Once delayed, fire returned with fury.

Although this irony was at the core of Pyne's analysis, other aspects of his study received wide critical attention. Most notably, his explanation of aboriginal fire practices and their role in shaping pre-Columbian environments was seized upon by critics as an example of his ability to explain as cultural what was previously thought to be natural and vice versa. Synthesizing insights from anthropology, ecology and an emerging literature in Native American history, Pyne recast natives in his tale from creatures of the forest to ecological agents. America was no Edenic garden upon European arrival, but a complex set of landscapes shaped by centuries of deliberate aboriginal burning. Most of the eastern woodlands of North America were seasonally burned in pre-Columbian

times, wide swathes of the Great Plains were the creation of the aboriginal fire stick and maintained as prairie on their moist fringes. Aboriginals used fire to tend meadows in order to attract game, to signal, hunt and war. Fire was even lit for entertainment: when Lewis and Clark approached the Rocky Mountains a group of natives led them into the hills to treat them to a fir torching spectacle, a kind of fire works. The Great Mythical wilderness of the American imagination was a retrospective creation, Pyne suggested. When Europeans arrived the landscape was more open, less wooded and free of tangle than was supposed later. It was only in the aftermath of European settlement, with the demarcation of protected places, that forests grew to their primeval magnificence. The material reality of “wilderness” was a consequence of, not a precedent to, European settlement.

After nearly two decades, *Fire in America* remains a “mini-classic” in the environmental history literature. Its broad sweep, integration of the ecological literature and reconsideration of nature-culture dualism made it one of the most important monographs in the field in the 1980s and it has not been surpassed. The third edition remains unrevised, complete with Pyne’s idiosyncratic organization. This fact is regrettable given the explosion of literature in related areas. To cite two examples: Gordon Whitney’s ecological history of the American East provides a wealth of new information, based in part on pond core data and other ecological indicators, to suggest more precisely the impact of aboriginal burning; Nancy Langston’s study of the Blues forest, on the other hand, provides new insights on fire control in the Pacific Northwest and its long term ecological consequences.⁴ One could go on. Readers must be content in the knowledge that Pyne writes new books rather than revise old ones.

A decade and two books separate Pyne’s original engagement with American fire history and his decision to attempt a fire history of the planet. There are seeds of his transnational interests in the American study, but it was only after his book on Australia, *Burning Bush*, that Pyne attempted to develop a systematic program to study world fire history.

The expansion in focus produced two books. *World Fire* was the first. Re-examining the book today, four years after its first publication, it reads like a work-in-progress, which of course it was: it introduced themes and cases that were later expanded upon in *Vestal Fire*. The book, however, was transitional in another sense: it bridged the approach developed in earlier work with the challenge of new environmental and cultural settings. The careful reader of Pyne’s first book will recognize persistent themes and strains of interpretation in *World Fire*. Pyne’s penchant for metaphor blossomed; his model fire history narrative gained form. The world, it turned out, looked much like America.

World Fire was written for a wide public audience and offers a smorgasbord of burnt offerings. It consists of nineteen essays treating different world regions as well as the American experience. Some of the world essays provide shortened treatments of previous work (essays on Australia and Antarctica), while others provide brief overviews of national and regional fire history (covering Brazil, South Africa, Sweden, Greece, Iberia, Russia and India). The final third of the book is devoted to revising Pyne's earlier work on the US Forest Service, providing general introductions to fire history ("Consumed by Either Fire or Fire" is a model of clarity) and assessing recent controversies, such as the 1988 Yellowstone fire that torched three-quarters of the National Park. A final piece consists of Pyne's fire fighter's diary. The book is a curious mixture.

One of the most recognizable aspects of Pyne's scholarship, which reaches a new height in *World Fire*, is his use of metaphor. *World Fire's* essays, for example, are organized around the concept of the stages of forest fire control: the introductory essays appear under the title "Smoke Report," the concluding piece under the banner, "After the Last Smoke." Many of the essays adopt a central metaphor (Africa as a container of fire practices and floral types, for example), or contain passages that make use of fire's different and sometimes contradictory cultural associations: fire destroys as it creates, oppresses as it liberates, illuminates while its smoke darkens the sky. At once self-indulgent ("To anyone interested in wordplay," Pyne writes, "fire history promises an inexhaustible reservoir of puns."⁵), Pyne's evocations are also self-conscious and implicitly analytical. He employs metaphor, like W.H. New, "in part to discuss metaphor, but also to emphasize the play — the manner, the fitful movement — of perception."⁶ Some critics find this a little precious. Most recently, William McNeill let out a resounding harumph, when criticizing Pyne's use of metaphor in his study of the Grand Canyon.⁷ Strunk and White and the campaign for plain language may yet have their day, but it is worth considering Pyne's literary games as a serious attempt to tackle the problem of writing about a natural subject with an unending list of cultural associations. Metaphor, as Pyne employs it, provides the possibility of questioning natural-cultural boundaries, blurring their distinctions and confusing "natural" categories. It is illusory to suppose that fire can be described as an objective thing with delimited boundaries. "To the imagination," writes Northrop Frye in his introduction to Gaston Bachelard's *Psychoanalysis of Fire*, "fire is not a separable datum of experience: it is already linked by analogy and identity with a dozen aspects of experience."⁸ The problem is at base phenomenological. Metaphor provides a playful bridge between perception and analysis.

Metaphor is invoked at an entirely different level in the assertion that Pyne's

world reflects his understanding of America. The comment is intended to highlight a narrative structure first developed in *Fire in America* and readapted in *World Fire*. Despite his attention to place, Pyne's fire history is structured by a series of recurring cultural-material stages: natural regimes are succeeded by aboriginal, encounter, agricultural and then industrial fire regimes — each with characteristic patterns, energy sources and long term environmental effects. Whether the essay concerns Brazil, South Africa or Sweden, Pyne's millennial sweep is wrapped around what might be called a mode of fire analysis. The analysis is primarily material, in the sense that economic activities provide the main impetus for sustaining and converting fire regimes. But it is not crudely so: Pyne is duly attentive to how factors such as culture, politics and environment condition the pattern. Nevertheless, one wonders what the world, and Pyne's narrative structure, would look like if he had begun his fire history research in, say, China, or if he had focused more consistently on urban as opposed to rural environments. Would the world then look like America?

A partial answer to this question is provided in *Vestal Fire*, Pyne's most ambitious book to date. A sweeping synthesis, the book sets out to explain the historical evolution of European fire and the worldwide propagation of European fire practices in the age of imperialism. Its breadth and scope invite comparisons to the work of Alfred Crosby and Fernand Braudel.

Like Gaul, *Vestal Fire* is divided into three. Book one, "Elements," introduces the fire geography of Europe by providing a survey of climatic and biogeographic provinces. Layered on top of this natural history are preliminary discussions of the use of fire by hominids, agricultural colonizers and industrialists. A complementary survey of the origins of culture treats the history of fire and early human cognition, ritual and ceremony. One moves rather quickly, in other words, from the caves of Lascaux to the invention of the modern match in a wide introductory arc. Having introduced Europe's fire geography and cultural history, book two, "Europe," explains the continent by its parts, the five fire provinces: Mediterranean, Central and Atlantic Europe, the Boreal North and the Eurasian Steppe. A guiding metaphor provides some narrative coherence to what would otherwise seem a mixture of contrasting cases: that of Central Europe as the European hearth, a smoldering core surrounded by flaming borders, lapping outward onto the world. Common themes also appear in markedly different regional settings: fire and land clearance in the Neolithic and Great Reclamation; fire's role in the agricultural cycle, fusing infield and outfield; fire and its uses in warfare and social rebellion; the denigration of fire in the Enlightenment; and fire in forestry and industry. But it is how these themes are locally articulated that provides book two with its richness. An extended

section, for example, on French Imperial forestry in the nineteenth century explains the disparate application and impact of French fire and forestry practices in Corsica and Algeria, sites of Europe's overlapping flames. A biographical examination of Linnaeus' studies of fire in the landscape of eighteenth-century Sweden serves as a parable for the theme of changing interpretations of fire in the Enlightenment and the role of centralized states in eradicating "folk-fire." Fire, in its different permutations, connects these various regional narratives. Pyne casts much new light on the long term environmental history of Europe.

Book three, "Earth" takes Europe's overlapping flames as its subject and follows their course around the globe in the age of imperialism. Sections on islands, continents and the planet telescope the natural, aboriginal and colonial fire histories of the lands altered by Europe's torches. Equally important, Pyne conveys the manner in which imperial powers imprinted new ways of controlling fire on colonial possessions, altering aboriginal patterns to fit a model of European enlightenment agriculture and forestry. Britain's importation of German foresters to India in the late nineteenth century and France's imperial forestry school at Nancy served as sites for later imperial dispersals of fire control knowledge. A world of altered fire regimes and unprecedented fire patterns: this was the heritage of the European flame, reaching back symbolically to Vesta's sacred hearth on Mount Olympus.

Impressive in its breadth, *Vestal Fire* also suffers from the shortcomings of synthesis on this scale. It will likely disappoint specialists in a variety of fields: Pyne's intellectual history of European pyrophobia in the Enlightenment is elliptical and evocative rather than explanatory. Urban environments are treated only briefly. The social history of agriculture is reduced to model agricultural systems.

At a broader level, it may be observed that Pyne transcends his earlier narrative model of fire history in the present work. The five stage structure of fire history still gives form to the analysis, but it also provides a context to ask *Vestal Fire's* larger question: How has the European experience and European expansion changed the world's fire? The present study addresses the problem of transnational fire more than any of Pyne's previous work.

As a gauge of Pyne's revised understanding of fire history, one may compare his brief treatment of "the fire from Europe" in *Fire in America* to his treatment of American fire history in *Vestal Fire*. In the first work, Europe appears as a source of mythology, a harbinger of a new fire regime on the Eastern coast in the colonial period and an influence on early forestry in the United States. In *Vestal Fire* the focus is reversed. America appears on the periphery,

one of many colonial settings exposed to the expansive fire ways of Europe. The point is not America's unique combination of influences, as in the first work; it is the heritage of European fire shared by NeoEuropes and colonies around the world. In a sense this shift in focus and emphasis marks an inversion in Pyne's fire historiography, a completion of the "Cycle of Fire."

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² *Fire in America*, 40-41.

³ William Cronon, *Changes in the Land: Indians, Colonists and the Ecology of New England* (New York 1983); Donald Worster, *The Dust Bowl: The Southern Plains in the 1930s* (New York 1979); Richard White, *Land Use, Environment and Social Change: The Shaping of Island County, Washington* (Seattle 1980).

⁴ Gordon G. Whitney, *From Coastal Wilderness to Fruited Plain: A History of Environmental Change in Temperate North America from 1500 to the Present* (Cambridge, U.K. 1994); Nancy Langston, *Forest Dreams, Forest Nightmares: The Paradox of Old Growth in the Inland West* (Seattle, 1995).

⁵ *World Fire*, 26.

⁶ W.H. New, *Landsliding: Imagining Space, Presence and Power in Canadian Writing* (Toronto 1997), 19.

⁷ William McNeill, Review of *How the Canyon Became Grand*, *New York Review of Books*, XLV (17) (5 Nov 1998), 52-55.

⁸ Northrop Frye, Preface to Gaston Bachelard, *The Psychoanalysis of Fire*, translated by Alan C.M. Ross (Boston [1938], 1964), vi.