VESTAL FIRES AND VIRGIN LANDS:
A Historical Perspective on Fire and Wilderness

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Stephen J. Pyne

Abstract

The merger of a wilderness tradition with a fire tradition has dominated contemporary discussions of fire management. A simplistic conception of the problem holds that wilderness fire management only involves the restoration of a natural process to a natural environment. The reality is that one hybrid of nature and culture, fire, is being reconciled with another hybrid, wilderness. Because they evolved more or less independently, the conjunction of these two traditions has yielded a thicket of operational dilemmas and intellectual paradoxes. This association will not endure in its present form: there will continue to be fires in wilderness settings that require management, but wilderness fire as a special philosophical concern and as a domineering phase of wildland fire management will pass.

The association of fire and wilderness is at once ancient and modern. Within our solar system the Earth is the great fire planet. Only the Earth combines the essential components of combustion. Jupiter has lightning and the moons of the outer planets possess atmospheres rich in flammable hydrocarbons. But only the Earth contains all the essential constituents, the processes needed to mix them, and an environment suitable for their interaction. The process began with lightning. Lightning not only furnished a source of ignition, but it may have catalyzed the evolution of life, which in turn provided the other two essentials for combusion: atmospheric oxygen and fuel. As terrestrial life expanded, so did fire. To complement its ignition source, the Earth also has a suppressant, water. The Earth can start fire, sustain fire, and suppress fire. Testimony to the antiquity of fire can be found in the coal-bearing strata of geologic time. There is little argument that fire is fundamental to the natural history of the planet.

Yet with the appearance of the genus *Homo* the geography and natural history of fire changed dramatically. Humans assumed some control over the start, spread, and suppression of fire. They could manipulate fire in new ways and shape the fire environment to new effects. Free-burning fire was removed from areas where it had previously ranged, and it was introduced to landscapes that had not formerly known it. Just when this process began is unknown. Hearths from Africa have been dated at 1.8 million years before the present. Certainly by the advent of *Homo erectus* around 500,000 years ago, fire was carefully tended in caves in Asia, Europe, and Java. I find it inconceivable that it was not also applied, deliberately and accidentally, to the surrounding landscape.

Among the millions of species on the planet, one had assumed control over combustion. The capture of fire by the genus *Homo,* well in advance of the appearance of *Homo sapiens,* would become one of the really fundamental events of natural and human history. Wherever humans went, they would shape the fire regime of the lands they occupied. For some parts of the world, this process has continued for hundreds of thousands of years; for all of the globe, evidence of this process dates from at least the waning of the Pleistocene.

Equally, the acquisition of fire changed the character of the species that controlled it. The possession of fire became a defining trait of humans, and the manipulation of fire one of the universal foundations of culture. So long as humans persist, they will continue, through their various fire practices--which respond to culture as well as adapt to natural surroundings--to shape their environment. Few biota now exist that predate the presence of human fire practices. Our evolutionary ancestors made a pact with fire. It is an alliance that has profoundly shaped the planet, and it is a relationship that will not be quickly altered by new conceptions of land use or revivals of old moral enthusiasms.

Fire and Wilderness

It would seem that the association of fire and wildland, even through the medium of human agents, is again ancient. But *wilderness* is not the same as wildland or nature. It is a distinct idea, a product of the modern socioeconomic order, and an American invention. Modern day wilderness is an intellectual construction, and wilderness sites are cultural artifacts. This makes the question of wilderness fire very recent. In many ways, far from being a restoration of ancient associations, it represents a unique creation, unprecedented in natural and human history.

There are two great phenomena at issue here--fire and wilderness. Fire and wilderness stand for two powerful ideas, two great experiences, two distinct sets of practices. That ambiguities, paradoxes, even contradictions should appear when these two phenomena are joined is inevitable. No one conceived the wilderness idea with fire specifically in mind. The wilderness idea had other origins, ultimately in the realm of moral philosophy rather than natural philosophy. And it had proponents--special intellectual interest groups--who were not members of the fire establishment (Allin, 1982). Not until the passage of the Wilderness Act fixed the evolving concept of wilderness with legal rigor did the status of fire control in wild areas become a serious question. Quickly, however, the contradiction of fire suppression in wilderness areas was replaced by the paradoxes of fire management in those same sites.

From the beginning there has existed a naive view about the association of fire and wilderness. It states that fire is a wholly natural process and wilderness a completely natural environment; that the two are intrinsically compatible, and have been for geologic eons; that the question of fire management is simply to remove the impediments, all anthropogenic, that inhibit their natural interaction. According to this conception, to establish wilderness it is only necessary to remove the human presence, and to promote wilderness fire it is only necessary to abolish the intrusions of human fire practices. Consequently, wilderness fire management only amounts to a process of environmental restoration. This is, in my judgment, a simplisitc interpretation and, ultimately, an unmanageable one.

The reality is far more complex. With wilderness fire we are not dealing with a natural process and a natural environment, but with two hybrids of nature and culture. We are not simply putting a natural process back into a natural landscape, but trying to reconcile one natural and cultural hybrid, fire, with another hybrid, wilderness. Neither hybrid is a fixed idea or set of practices. Both have their own histories, and until very recently they did not overlap in ways that demanded attention. That the process of harmonizing the two should be perplexing--institutionally, intellectually, and operationally--goes without saying. It would be astonishing if the two had been rendered instantly compatible.

In recent years, these two traditions have come together in powerful ways, not merely coexisting but intersecting. Each has reshaped the other. Wilderness managers must accept the ancient symbiosis between humanity and fire, and fire managers, the more recent legal and conceptual status of wilderness. What seems to be a simple physical event, a fire burning in a wilderness site, can thus occupy two different cultural worlds--one formed out of a wilderness tradition and the other out of a fire tradition. So compelling has the merger of fire and wilderness become that it is possible to interpret the general history of contemporary fire management policy and programs as a response to it. This in itself is not unprecendented. From time to time fire management in the United States has organized itself around some dominent kind of fire problem. Catalyzed by the association of fire and wilderness, this type of reorganization has apparently occurred again. Call this most recent epoch the era of wilderness fire.

Thus the question of managing fire in wilderness areas, which might have remained a question of technique internal to fire management, has become something larger. It has acquired philosophical, legal, even moral connotations; and as that simple physical event, fire in wilderness, made the transition to a more metaphysical status--wilderness fire, it reformed fire management as a whole. Accordingly, it is possible to discriminate between *fire of wilderness,* whose identity is a relatively objective question of geography and fire management technique, and *wilderness fire,* whose meaning has the properties of a philosophical construction and whose character has informed an entire era in the history of wildland fire management.

The impact of wilderness fire, and the era it has shaped, has been ambivalent. On one hand, it has brought an intensity to the problem of fire in wilderness that had never been present before and that compelled fire agencies to rethink the goals of fire management. On the other hand, it has transformed a technical question in fire management into a Gordian knot of philosophy, law, technical expertise, and popular enthusiasms. It is important to recognize that this transfiguration of a fire problem, fire in wilderness, into a problem fire, wilderness fire, is a transient event.

The Wilderness Concept

Wilderness is not a universally recognized concept. It represents the encounter of Old World ideas with New World environments. It has been said that the greatest event in the history of the Old World was its discovery of the New. To be sure, the New World offered an abundance of natural resources whose plundering could enrich Old World coffers. But, equally, its discovery was a dramatic moment in intellectual history. It was as though the world had been remade, as though a second chance were being given to European peoples to start civilization over again.

Our evolving conceptions of wilderness have reflected this historical experience: WHATEVER PREDATED European discovery, no matter how profound the human component, could be considered wilderness. In particular, the American Indian was an indelible part of the natural order of the New World. Perhaps the incredible aspect of this perception is not that Indians were considered natural but that Europeans, as a result of their own definitions, were typed as unnatural. Almost certainly the origins of this perception are religious, reflecting the Christian belief in original sin, the fall of man from his original state of nature. Not mentioned in the Bible, the Indian seemingly escaped the consequences of the

fall; and by the Romantic period, he could be envisioned as occupying a pristine state of precivilization. With regard to Indian fires, the essential division is not between "natural" man and "technological" man, but fallen man and prelapsarian man (Pearce, 1965).

The contemporary concept of wilderness is only the latest in a series of great ideas to emerge from the discovery of the New World. The Noble Savage, the Forest Primeval, the Virgin Land--all are ultimately moral parables by which to criticize the decadent civilization of the Old World and to exhort the New World to do better. They represent myths of a past Golden Age of natural and moral stability, relocated from a Mediterranean Eden to the New World wilderness. Such ideas are moral paradigms and literary conventions, not reports on the state of nature (Bury, 1932; Smith, 1950). Yet no one--least of all someone with aspirations in fire management--should doubt their power. Time and again, awakenings of moral sensibilities and religious enthusiasm have been accompanied by revivals and refurbishings of these ideas. Much of the power of the wilderness idea derives from its association with this heritage. These ideas are an inextricable part of our civilization. In some versions they constitute a national creation myth. In the final analysis, none of us would really wish them away.

Other values have been attached to the wilderness idea. That the land possesses information vital to science, that it offers the opportunity to reexperience the awe of Western explorers and the hardihood of pioneers, that it is a part of our landed heritage, the raw stuff out of which our civilization has evolved-all presuppose the values and institutions of an industrial civilization, a Western civilization, and an American civilization. The contemporary concept of wilderness is not intrinsic to natural environments; it was shaped, and continues to be shaped, by the society that defines it. Other societies do not have this conception of wilderness or wilderness preserves unless they have imported the idea and practice from the West, principally the United States. Even Latin America, which also represents the encounter of Old World and New, did not evolve a wilderness ethos and ideology.

Yet by shaping our conception of wilderness, even to the point of fixing it in legal language, these ideas have assumed the status of management goals. What is a state of mind is presented as a state of nature. Almost all of the paradoxes of wilderness fire derive from the fact that these culturally determined visions--together a creation myth--with their source in literary and philosophical traditions, have been mandated into management goals for field and office. There are many ways to preserve a myth, but land management is an especially intractable one.

The problem of accommodating myth with management, moreover, is doubly complicated because we are not dealing with one cultural tradition but two. Modern wilderness ideas have their origins in the humanities, while wilderness management looks to science. The two cultures--one sacred, the other secular--are not easily reconciled (Snow, 1964). The humanities deal with moral universes; the sciences, with natural universes. We cannot solve the questions of the one with the data of the other. Their purposes differ no less than their methodologies. The failure to answer scientific questions by humanistic, ethical, or theological methods is matched by the failure to answer moral questions by scientific processes. On their different purposes, one is reminded of a remark by George Bernard Shaw that science was one of the worst forms of knowledge because it was always changing its mind.

In the case of fire, this disparity has led to astonishing paradoxes. Fire is not simply a natural process, even in the New World. From at least the ebbing of the Wisconsin glaciation, no landscape has been spared from anthropogenic fire. No "natural" landscape has existed since the emergence of the Holocene. To remove anthropogenic fire from such landscapes is not to restore a pristine Golden Age of nature, but to fashion an environment which, in all probability, has never before existed.

It has not been my intention to outline the composition and history of the wilderness idea in detail. That has already been done brilliantly by Roderick Nash (Nash, 1983). My point is to emphasize the cultural foundation of the concept, to reiterate that wilderness is the outcome of positive human activity, not merely the withdrawal of human presence. Only the nature of that presence and the ideas that inspire it change. Recall, for example, the Leopold Report (1963) with its eloquent admonition that the National Parks be managed as "vignettes of Primitive America," preserving or recreating the scene that existed when the European first arrived. Just what such a scene looked like is not always easy to confirm. One is inevitably reminded of Bertrand Russell's observation that "'return to nature' means, in practice, return to those conditions to which the writer in question was accustomed in his youth" (Russell, 1929).

Wilderness Fire

The appearance of a wilderness ideology strong enough to dominate land use decisions has had, of course, enormous repercussions for wildland fire management. In one sense, the problem of fire in remote "wilderness" (backcountry) areas had always been around. But in another sense, until wilderness took on specific statutory and ideological meanings, wilderness fire lacked a unique identity. Fires in wilderness sites were no different from any other fires except that they were more difficult to manage because they were more remote. Their geographic location made them inaccessible, while the low value of the lands in which they burned made them distant from a market economy. Eventually, however, fires in wilderness sites acquired unique significance and established a kind of hegemony over virtually all aspects of wildland fire management at large. It is this issue--wilderness fire as a special phase of wildland fire--that provides the *raison d'etre* for this symposium.

How this came about is a story I have told elsewhere in greater detail, but a few points are worth emphasizing now. Fire came to America from three sources, and it was applied for four purposes. It came from nature, in the form of lightning; from Asia, at the hands of the American Indian; and from Europe, through a host of immigrants. It was used to support hunting and gathering economies, sedentary shifting agriculture, and an industrial order. Each required a different set of fire practices, purposes, and techniques that would direct the application and withdrawal of fire. It is the latest of these accommodations, to the industrial revolution, that has defined wildland fire history over the past century.

Industrialization set in motion changes that have utterly transformed our conception of nature and our use of natural resources. Among the resulting ideas relevant to this symposium were industrial forestry and wilderness, and among the significant revisions in land and resource use was a process of reserving forest and range lands that might be termed the *counterreclamation,* because it denied access to these areas for traditional agricultural pursuits. Modern fire management in America dates from the time of these reservations, principally the

National Parks and the Federal and State forest reserves. Only at this time was wildland fire really distinguished from rural fire, and only in the past couple of decades has wilderness fire been segregated as a separate form of wildland fire. It is a matter of singular importance to the history of wildland fire in the United States that the group of professionals who took charge of these lands, principally the forest reserves, were foresters.

Naturally, foresters looked to European precedents for inspiration. The preliminary efforts--from the concept of a timber famine to the establishment of a Bureau of Forestry and a system of forest reserves--can be viewed as a colossal episode of technology transfer from developed countries, notably Germany, to a developing nation, the United States. The transfer of German forestry was only one small part of an astonishing influx of German culture, from philosophy to physics, that had swept over the United States during the 19th century and only faded with World War I (Goetzmann, 1973). Many German intellectuals immigrated to the United States, and American students in search of graduate training pilgrimaged to German universities, much as Third World students now flock to American schools. Even the French forestry school at Nancy to which American aspirants like Gifford Pinchot went for instruction was set up by Dieterich Brandis, a German in the service of the British Empire. In general, American foresters found little precedent for their fire problems, but they did leave with the shimmering vision of a carefully manicured, fire-free forest.

An excellent example of what happened is the story of *Bambi.* The original book by Felix Salten was set in an Austrian forest preserve dedicated to game. The villans are poachers. There is no hint of a fire that might sweep through the woods. But when the story was relocated to America by Walt Disney Studios, an apocalyptic fire was inserted. It was as unimaginable for an Amercan forest story not to have a fire as it was for a German forest story to include one. Similarly, the need to accommodate fire was the first requirement of American forestry.

Naturally, American foresters sought to establish a new regime by breaking down the traditional fire practices that had characterized the westward settlement. The easiest method was to eliminate anthropogenic fire by excluding settlers (and Indians, now securely on reservations) from specific areas, and to suppress what fires did occur. Not everyone was pleased with the outcome. Not all traditional usage was excluded from the National Forests, but without traditional fire practices such usage was often made difficult. Much of industrial logging moved into the West Coast from the South, and it frequently brought with it fire experiences learned from coping with the southern rough. Other intellectuals, unimpressed with the professional credentials of foresters, wanted to promote the "Indian way" of forest management. Most of these groups wanted more fire, controlled underburning, in the woods.

The question of fire management smoldered until 1910, when the light-burning debate in California went public that summer, and the famous Big Blowup swept the Northern Rockies. The timing of these fires, even more than the destruction they caused, changed the course of American fire history. Understandably, confronted by hostile critics from without and by fires within, the U.S. Forest Service got tough with fire. It was engaged in a great crusade to save the country from a timber famine; its ranks were composed almost wholly of young men; and in an era that urged the "strenuous life," it had a fire in its eye--some would say a fanaticism--not unlike that of many wilderness proponents of the past few decades. It was in no mood to compromise. The Weeks Act of 1911 gave it a mandate to ex-

pand its land base and to promulgate its fire protection message through state cooperators. The modern wildland fire protection system of the United States was underway.

From the events of 1910 onward it is possible to divide the modern history of wildland fire management into four eras. Each of these eras focused on a particular kind of fire problem, each developed its own intellectual and institutional solutions to this special fire problem, and each sketched appropriate roles for fire control and fire use. Each, that is, established a suitable set of fire practices. Wilderness fire is the most recent phase of this evolution. In one sense, this progression was continuous. Fire management expanded in range, it intensified in practice, and it amalgamated new techniques as needed. Each era flows readily from the preceding era. In another sense, however, these eras do represent fundamental transformations in purpose and practice. Each developed not simply from an internal momemtum within fire protection, but in response to other events, often unrelated to fire management and unimaginable before they actually occurred. Superimposing discontinuities on fire history, moreover, accents the critical role of chance events, the influence of personalities, and the connections fire management has with the larger society that sustains it.

Naming these periods according to their problem fires, these four fire eras might be called the *frontier fire* (1910 - 1929), the *backcountry fire* (1930 - 1949), the *mass fire* (1950 - 1969), and the *wilderness fire* (1970 - present). The details regarding each era are unimportant here. I have told the story elsewhere at some length (Pyne, 1982). Of special pertinence are those events surrounding wilderness fire--its arrival, its peculiar achievements, and its prospects.

The origins of the wilderness fire era can be traced to a wilderness ideology that has been articulated with increasing clarity and that has, through legislation, rewritten the statutory authority of the Federal land agencies. The wilderness idea was not a metaphysical aberration or a social fad, though elements of each could attach themselves to it. Rather it consolidated old concepts into a *weltanschaung* for new lands. Herbert Butterfield has observed that the essence of the scientific revolution did not lie in new evidence so much as a new way of looking at well-known facts (Butterfield, 1957).

Something like this happened with wilderness fire. Its revelations were not based so much on new data as a reinterpretation of old data; not the facts but their cultural context--the promulgation of a wilderness ideology--had changed. Translated into legislation, these ideas compelled new concepts and techniques from fire management. Like other catalyzing events in American fire history, the crystallization of a wilderness ideology did not originate from within the ranks of fire management. Instead it challenged the fire establishment. This made accommodations difficult, and it required the identification of suitable traditional concerns that could bridge old practices and new.

The Legacy of Wilderness Fire

The consequences of this charge have affected wilderness management and fire management equally. The conundrum of wilderness fire has sharpened our appreciation for the concept of wilderness, particularly its paradoxes and limitations, and it has served to refine our wilderness management skills. Unlike so many wilderness problems, it could not be solved by limiting human access; on the contrary, it demanded human intervention, though of particular sorts. Unlike other wilderness dilemmas, it could not be shelved indefinitely or tabled for

further study. It would not go away. It was not entirely a human technology. It was as effective by being withheld as by being applied. There was simply no neutral position.

Similarly, wilderness fire represented a new phase in the historic symbiosis of humanity and fire. It was a new category of fire, and it compelled new concepts for understanding and new practices for management. Surely fire belonged in wildlands. On that almost everyone could agree. But under what conditions--conceptual and practical both--fire could be encouraged was far more difficult to answer. The problem was not merely to introduce fire into the landscape, but to do so in harmony with the peculiar tenets of the wilderness concept. Most of the intellectual paradoxes and operational quagmires associated with wilderness fire result from approaching the question from the perspective of wilderness.

Viewed from the vantage point of fire, answers seem obvious. Of course fire must be actively managed in these sites; of course prescribed fire of all sorts--underburning and crown fire, scheduled and unscheduled ignitions--must be used. Answers become possible because the question of fire in wilderness has been disentangled from wilderness fire. The focus has changed from wilderness fire, with its foundation in the wilderness concept, to fire in wilderness, with its roots in fire management. The defining relationship is that of people to fire, not people to wilderness. Disengaging to two traditions allows for a solution, but the price paid is that the question loses its vitality. The long-term consequences are thus ambivalent.

The accomplishments of the era of wilderness fire have been impressive. It established new norms for fire use and control, and new objectives for fire relative to land management. It inaugurated a massive, decade-long process of fire planning. It led to new fire policies. It reoriented fire research into biological topics and fire effects at large, both ecological and economic. It dramatically expanded fire-related skills. Principally, this meant handling fire in wilderness areas, but by a process of association it expanded into the realm of prescribed burning as well. It compelled a fundamental reclassification of wildland fire into two broad categories, wild and prescribed fire. Its precepts and techniques have become the training ground for the next generation of fire specialists.

Not all of these transformations owe their existence solely to the issue of wilderness fire. There were other arguments for reconstituting fire protection, quite independent of fire problems in wilderness, and there were ample reasons to accelerate prescribed fire projects. But wilderness fire gave these long-standing issues a focus and their reformation a moral energy. In some respects, too, these older problems provided a means of entry into the special conundrums posed by wilderness fire.

Historically, a fire protection system in the United States had thrived because it expanded into new, unprotected lands. By the 1970s, however, that expansion was virtually complete. All of the lands in need of protection were by and large protected; in some areas, the level of protection was shockingly intensive. Suppression and presuppression costs spiraled seemingly out of control. Fire protection was hardly alone in experiencing wildly escalating expenditures; government had been a growth industry, and nearly everywhere funding had gotten out of hand. Fire control, however, had its own peculiar mechanism for escalating costs, and it experiences, through the wilderness challenge, a special form of control. In actuality, several processes came together at roughly the same time. Wilderness concerns rewrote the statutory authority of the Federal land agencies.

The reality of diminishing return compelled some forms of administrative consolidation, especially interagency coordination. Reductions in the rate of Federal spending demanded institutional reforms and policy reconsiderations. But it was wilderness fire that provided a common fucus.

In the long run the most spectacular achievement of wilderness fire may be its vindication of prescribed buring. If fire could be used for some purposes, like those in wilderness sites, then it could be used for other purposes and in other locations. If fire was essential for wilderness areas, then it could also be good for other, less pristine environments. In a sense, through the medium of fire, the goodness of the wilderness could be brought to other lands. This was the ideological component. Obviously, there were other, practical considerations. There always had been. Fire use had never been abolished during the evolution of modern fire protection, but is potential usage had always been circumscribed by the particular problem fire that informed the era. Light burning, for example, had been repudiated not because it was worthless, but because it too closely resembled laissez-faire practices of the frontier with their extravagant waste of resources and their hostility to government bureaus. Stacking and burning were encouraged, but not broadcast underburning. Every era had found its own range of potential fire use.

It was not until the effects of wilderness fire justified a general conviction that fire was beneficial and necessary in ecosystems that the fervor grew for a general program of prescribed burning. There were practical concerns, like a buildup of fuels in some environments, and there was an accelerated awareness about the potentials for prescribed fire, spearheaded by the Tall Timbers Fire Ecology Conferences. But fuels had built up implacably in some areas for decades without leading to the almost universal adoption of prescribed fire as a solution. Similarly, the range of applications for prescribed fire might have slowly expanded, site by site, purpose by purpose, without becoming a generalized solution to fire management problems. Instead prescribed fire became identified with wilderness fire. Consequently, it was not practical issues, like fuels, that led to the fervor for prescribed fire; it was conviction about the value of prescribed fire, inspired by the wilderness ideology, that encouraged a search for legitimate uses. It was as if distributing prescribed fire became a surrogate for distributing wilderness. The reduction of fuels and the maintenance of habitat channeled prescribed fire into areas of traditional concern to foresters, providing a conceptual and operational nexus between old concerns and new goals.

In brief, wilderness fire encouraged the use of fire, just as previous eras had generally discouraged it. Without wilderness fire as an informing problem, prescribed fire likely would have remained a local epiphenomenon, widely used but not widely promulgated as a national program. Something had to propel the idea into large circulation, to give it a powerful focus that would permit all forms of fire use to be lumped together under the rubric of prescribed fire and all other manifestations of fire to be labeled wildfire. The idea of wilderness did just that.

But to match its accomplishments, the era of wilderness fire has created an equally impressive array of operational dilemmas and intellectual paradoxes. At first wilderness fire, like other problem fires, was defined and promoted in terms of the problems it solved; eventually, it will be repudiated because of the problems it creates. The issues debated at this symposium did not really exist as public questions when wilderness fire began to challenge the era of mass fire. Wilderness fire could resolve issues that mass fire could not, and nagging doubts about finer

points of philosophy, such as the question of Indian burning, were swept aside. As wilderness fire reorganized fire management in general, however, those minor points have become more and more insistent. Now they tyrannize discussion about fire management.

The dilemmas will not be overcome solely by appeal to technical information. They will not be solved by inventing a new terminology, nor by more elaborate definitions, nor by shifting the burden of meaning from one intangible philosophical concept to another. The epistemological clarity of "real world" is, after all, no better than that of "natural." It may matter little to a tree whether the fire that burned it had its origin from lightning or from the hands of an American Indian, a research ecologist, an arsonist, or a careless camper. But that fire is not burning in a wholly natural environment. It burns within a cultural environment, too, and the source of the fire does matter to the society that sustains it. One could make the same argument that it hardly matters to a person killed by gunshot who pulled the trigger or why. It matters enormously to society. This is not simply a scientific question; it depends, ultimately, on the values and institutions of the culture within which the event occurs.

The myths are real, vital to our national identity. The paradoxes associated with wilderness fire are real. They will only be resolved when wilderness fire no longer dominates fire management at large, when pragmatic field operations replace the philosophical debate because the metaphysics no longer matters in the same way. Such problems are not solved in any technical sense; they are simply bypassed. They become academic issues, not live ones.

The Future of Wilderness Fire

It may seem perverse, within the context of a symposium dedicated to the general successes of wilderness fire, to speak about the termination of the era. But if the metaphysical issues will only vanish when the era does, then there is a practical as well as a theoretical point to the discussion. Wilderness fire will not endure forever as an informing problem fire. Each of the four phases of fire management outlined previously lasted only about 20 years. And, if one wished to begin wildland fire management with the establishment of the forest reserve system (1891), another epoch could be added precisely 20 years before the era of frontier life.

Why this periodicity should exist, I cannot say. It is especially puzzling when one considers the many chance events that have shaped American fire history. A partial explanation derives from the circumstances under which the Forest Service was established. It was created virtually overnight as a result of the Transfer Act and it began with a homogeneous population of young men rather than a general distribution of age groups. The 20 year period might correspond to a bureaucratic cycle of generations. Temperamentally, I don't believe in cycles of history, and for present purposes it is enough to ascribe the cycle to chance. My point is that wilderness fire, too, will pass. It does not really matter whether the change comes at 20 years, or 25 years, or 18 years. It will come. There will continue to be fires in wilderness, but wilderness as a metaphysical concern and wilderness fire as an informing problem will give way to other issues. If the periodicity holds, then the era of wilderness fire will expire formally around 1990. If this analysis is correct, we are already on the downhill side of the era.

Ponder for a moment the implications of this conclusion. One is that the philosophical issues which seem so intractable today will become less so as the ideology

of wilderness fades from the fire scene. This is not altogether an occasion for rejoicing. It suggests that about 5 to 8 years remain for wilderness managers to work out in practical terms just how to manage fire on their sites. After that, fires will continue, but fire management will no longer possess the philosophical conviction necessary to devote special energies to them. We will then witness fires in wilderness, but not wilderness fire. The techniques of wilderness fire management must be availalbe and, for most areas, already in place for use by that time. Those areas that do not have operational wilderness fire plans by then may never have them. The scope of fire management is far vaster than wilderness fire, or even of wildland fire; the problems and potentials posed by fire will not long be confined to wilderness arenas. It is vital that pragmatic solutions be found, that after the metaphysical energy vanishes there remains a residuum of field techniques and concepts that can cope with fire in wilderness. Fortunately, the techniques of wilderness fire management are well advanced. The future of wilderness fire may look bleak, but the future of fire in wilderness looks excellent.

Exurban Fire

In this scenario it does not matter much what supersedes wilderness fire. But of course simple curiosity compels one to hazard a guess. There are two dangers in any such forecast. One is that you are laughably wrong. Epecially when one considers the role of chance events--all orginating outside fire management proper--in the evolution of fire policy, any future projection is troublesome. The other hazard, more flattering, is that one is believed, that the imagined future becomes a blueprint for action, that the forecast becomes a self-fulfilling prophecy. Still, there is reason to guess, if only to emphasize the ephemerality of wilderness fire.

My suspicion is that the next problem fire will deal with the question of residential developments in wild or rurual lands, what I would label exurban fire. This isn't really a rural fire problem, though it resembels one in some respects. The population is not engaged in agriculture; the developments are residential and recreational. Nor is it really an urban-wildland interface problem after the Los Angeles model. The encroachment of the megalopolis against true wildlands is relatively slight, though occasionally spectacular; most cities expand at the expense of rural land. Rather this encroachment is by an exurban population, searching after ever more remote suburbs. The outmigration from farms to cities ended decades ago in the United States; it persists now in select cities, like Los Angeles, due to immigration, legal and illegal, from rural areas outside the United States. Instead, this is a secondary migration from urban to exurban sites, from industrial core regions to less populated areas. A good many such areas occur in wildlands, and some abut wilderness.

The expansion is actually twofold, because wilderness, as formally designated, is also being insinuated into less remote sites, many of them once settled or located near settlements. Either way there is a natural point of transition from wilderness fire to exurban fire. The problem is ubiquitous across the United States, but this in itself is no guarantee that it will assume the stature of a problem fire than can, in turn, inform the national fire management departments effort. There are several candidates, and if history is a guide, one will be selected, in part, on the basis of chance events.

Under such an exurban fire regime the changes would be many. We would witness a revival of suppression and prevention programs. Planning would emphasize county zoning rather than land management principles. Fuels would

more likely be treated through fire codes or mechanical devices than through prescribed burning. Engine companies could be more important than smokejumpers, local volunteer fire crews more than interregional suppression crews. The interagency integration of fire resources would be extended down to rural areas. Research would explore new fuel complexes, investigate new burning attributes, and test new strategies for suppression. The transformation would not abolish the management of fire in wilderness, but it would demote wilderness fire from the status of a philosophical interrogation to a routine field operation. The moral energy that has sustained much of the quest for wilderness fire would vanish or become merely quaint.

Conclusion

At the moment, however, my concern is less with the future than with the past. The association of wilderness and fire--at an intellectual level so readily asserted and at an operational level so intractable--is a great event in our history. It is an idea and a practice that will spread, in modified forms, to all parts of the world that adopt versions of the American concept of wilderness. But we should ponder the uniqueness of this association, not assume its inevitability.

We are a people who represent the contact of Old World civilization with New World nature. The character of that pre-columbian landscape is problematical, but we have come to call it wilderness. We preserve it because it is part of the raw stuff that has made us a people, a nation, and a culture. All of this is, of course, an American notion. Nature looks different to other peoples. They do not define themselves as wilderness societies. So powerful has the idea become in recent decades in the United States, however, that it has dictated all manner of land use legislation and practices.

Amidst the enthusiasm for *wilderness* values, we should not forget that there is another value at risk in the question of wilderness fire. That is fire. Our relationship to wilderness may define our character as a civilization, but our relationship to fire has defined our identity as a species. Only recently have we become keepers of the wild; but for all of our existence as a species we have been, and will continue to be, keepers of the flame. Some peoples will preserve wilderness, some will not. But all will manage fire. We cannot completely subordinate fire to the demands of a wilderness ideology, nor should we want to. We ought to remember that fire, as an ecological process and a cultural phenomenon, is different from other threats or challenges to wilderness; we must also mold our concept of wilderness to suit the reality of fire. Obviously, there is an urgent need to reconcile fire and wilderness. But there is a value, too, in keeping them separate. Both, in their own ways, are testimonies to creation myths: wilderness, to our existence as a nation; fire, to our existence as a species.Each will shape our perception of the other.

From the earliest times societies have maintained sacred fires. These were motivated by practical concerns originally, but in time the fires assumed ceremonial identities as well. They became national fires, symbols of the entire people. Perhaps the best known is the vestal fire maintained at Rome by a cadre of priestesses and virgins, a symbol of the Roman state. The role of fire keeper has become a good deal more secular over the centuries, fortunately for all of us no longer identified with a cult of virginity. But the role remains a special trust. Fire managers should see in wilderness fire an opportunity to preserve a distinctive kind of fire and set of fire practices. Fire researchers should welcome

wilderness fire as a unique laboratory, a chance to study fires that, as utilization intensifies, may vanish elsewhere. Fire historians will recognize in wilderness fire a variety of national fire, an eternal flame to the settlement of the New World, a vestal fire for America's virgin lands.

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Stephen J. Pyne is Professor of History, University of Iowa, Iowa City.

WESTERN PARKS AND THE AMERICAN CHARACTER

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William E. Brown

Savant Joseph Campbell recently stated that ". . .mythologies differ as the horizons, landscapes, sciences, and technologies of their civilizations differ." Though he speaks in broad anthropological terms, I apply the idea narrowly to the historical evolution of the American West. To give point to this idea of myth-making horizons and landscapes, and the effects of evolving science and technology, I turn to the Lewis and Clark Expedition, and to the commentary of one one of its students, Roy Appleman, who trod the explorers' trail 170 years after them. The journals of the expedition are restrained and factual. But not and again the drama of the journey shines forth, as in this passage by Meriwether Lewis, written the night of April 7, 1805, as the two captains prepared to leave their winter camp at Fort Mandan to reach the unkown, beyond the missouri:

> . . .we were now about to penetrate a country at least two thousand miles in width, on which the foot of civilized man had never trodden; the good or evil it had in store for us was for experiment yet to determine, . . .however, as the state of mind in which we are, generally gives the colouring to events, when the imagination is suffered to wander into futurity, the picture which now presented itself to me was a most pleasing. . .I could but esteem this moment of my departure as among the most happy of my life.

Implicit in these expectations is the yearning for Eden in the first days of God's creation. The captains' subsequent adventures, marked by discoveries and revelations beyond imagination, fulfilled that yearning.