Summaries of The Organic Machine

Geographical Review

Of the many environmental crises that plague the contemporary Pacific Northwest,

few seem as ominous or tragic as the fate of the Columbia River and the Pacific

salmon that once spawned in its many tributaries. Less than two centuries ago, the

abundance of salmon astounded explorers and supported some of the densest Native

American settlement on the continent. Today, the river's native people are marginalized,

its rapids have been submerged behind dams, and many of its salmonwhose

upstream migrations would cause the river to froth from bank to bank-now

qualify for listing under the Endangered Species Act.

The Columbia's transformation has been profound, and it has inspired several

scholars-environmental historians, by and large-to chronicle the river's deterioration.

These authors attribute blame to the usual suspects: development, logging,

overfishing, cattle grazing, the building of dams, the dyking of estuarine and riparian

wetlands. Few of their works, however, match either the theoretical sophistication

or the simple elegance of Richard White's The Organic Machine.

White, a historian, begins his narrative by identifying the lowest common denominator

that defines and unites all of the actors in the Columbia River's drama:

energy. He begins with a brief discussion of how solar energy evaporates ocean water

and carries it to the mountain peaks of the Northwest; from these peaks the river's

tributaries, with their stored potential energy, tumble downslope. This same energy

placed selective pressures on salmon, aiding their evolution into large and majestic

fish. It is also the same energy against which canoeing Indians once strained with

paddles and the same energy that, converted to electrical current by hydroelectric

dams, has provided fuel for the region's current economic boom. Together, tumbling

water and the region's geology have produced a "geography of energy" that has

at once shaped and been shaped by the social fabric of northwestern society and has

contributed to the formation of a dynamic social geography. Channeled rapids, for

example, where the Columbia dropped through incised bedrock, became contested

places: At contact, they posed navigational challenges that brought whites and Indians

into close and sometimes tense proximity. Later, Indians were displaced from

their traditional fishing grounds at the rapids by industrial fishing operations; later

still, the rapids became the sites of hydroelectric projects, in the face of opposition by

industrial fisheries and Indians alike.

White demonstrates how ideology became a potent force in these exchanges,

radically reshaping flows of energy and matter. He also illuminates many of the

power struggles that determined how the resources of the river were to be managed

at different periods of Northwest history. Most authors who assess Columbia River

history bemoan the gradual defeat of "nature" by "culture:' providing accounts of

the increasing mechanization and control of the river as evidence. In contrast,

White describes the growing industrial mechanization of the river not as evidence

of increasing human distance from or triumph over nature but, rather, as increasingly

intensive ways of engaging nature and converting its energy to other forms.

Accordingly, he suggests that the laborers of the Columbia River-its fisherfolk and

boat captains, for example-developed an intimate knowledge of the environment

through their work, a knowledge that was more accurate in many respects than was

any abstracted understanding of the river. He is suspicious of bourgeois preservationism

and invokes Emerson, in contradistinction to Muir or Kipling, as the poet

laureate of this perspective.

Subtly, White stresses that environmental historians tend to provide a "declensionist"

narrative, one in which nature, through human intervention, falls from a

state of pristine grace-a state that, more often than not, has been a partially fictionalized

historical construct. Convincingly, White counters that we have not so much

destroyed natural systems as changed them: The valuation of these changes, he suggests,

is an inherently polemical and ideological exercise and should not cloud empirical

assessments: "To say that there should be thousands of chinook and sockeye

[ salmon] passing upriver on a given day ... is, perhaps, to miss the point. If this were

the old Columbia River system there should be salmon, but this is a different river. It

is not the river the salmon evolved in. This new river produces carp and shad"p. 90). The resulting river is neither a "natural" phenomenon nor a "cultural" one

but a hybrid, an "organic machine" in which the impacts of human and environmental

forces are inextricable. Occupying the intervening spaces between the categories

of "natural" and "cultural;' the Columbia River defies our prevailing sense of

"the order of things." This has hamstrung attempts to manage the health of the river

and the organisms that dwell in it. We are left with the sense that these categories

must be transcended if we are to successfully navigate the environmental crises of

the Columbia River, or indeed, the environmental crises that plague much of the

globe today.

Consistently, throughout his career, White has been an innovator, often borrowing

from and improving on themes developed in disciplines outside his own. Beginning

with his 1980 book, Land Use, Environment, and Social Change-a work

influenced by, among other things, the environmental chorology of the Berkeley

School of cultural geography-White has been among the most prominent thinkers

in environmental history, and his writings have contributed significantly to the development

of that emergent subdiscipline. The Organic Machine is arguably the next

step in this portentous progression: The book reflects considerable intellectual

transformation since his earlier work, embodying themes derived from critical and

postmodern writings in history, geography, and elsewhere. His use of energy as a

central organizing theme is insightful and largely convincing (though admittedly,

White is not systematic in his use of the concept-the convertibility of energy and

matter is sometimes depicted in a technical sense, but elsewhere its use is almost

metaphorical, and he alternately over- and understates the utility of his perspective).

His inspirations are eclectic, and his writing style is widely accessible. Although his

theoretical perspectives are quite fresh, White's work is reminiscent of that produced

by an earlier generation of writers, such as Lewis Mumford or Rene Dubas.

Mumford and Dubos were accomplished scholars who sought to convince a lay

audience that human and environmental systems were inextricably bound by links

mediated-but never severed-by technological intervention. Although The Organic

Machine may not be as deeply influential as White's earlier work, it will bring

about a minor gestalt shift among environmental historians and will spawn a host of

studies that imitate or adhere to his central themes. No doubt, our respective disciplines

will be the better for it.-DouGLAS DEuR, Louisiana State University

Oregon Historical Quarterly

White's focus on labor in the remaking of the river that highlights his

analysis most effectively and stimulates the most rewarding rethinking in

the book. To understand what happened on the Columbia, White suggests,

readers ought to put Thoreau 20 'Pacific 'Northwest Quarterly

and Muir on the shelf and read Emerson and the planning savant

Lewis Mumford. Mumford's vision for a remade Columbia included massive

infusions of human labor that would transform an energy-rich landscape

into a landscape of work, community, and democratic futures. Mumford's

joining of the mechanical and the natural, as White makes clear in his

discussion, did not produce the utopian Northwest he had envisioned, but

that does not obviate the fact that the Columbia is a symbiotic landscape of

natural resources and human inventiveness.

Technology and Culture

Richard White's short, powerful, and provocative book challenges readers to understand the

Columbia River and the larger environment as products of the interplay between human

history and natural history. White organizes his analysis around energy and work, qualities

shared by rivers and people across time and cultural divides. Both technology and culture are

part and parcel of The Organic Machine. Technology appears as the tools that people

employed to extract what they needed or wanted from the river or that they used to transform

the river, its valley, and its hinterland. Culture appears as the values and attitudes, the dreams

and aspirations, of those who wielded the tools. White's analysis pays attention to race and

gender and to the often conflicting visions of those who sought to make and remake the river

in their own image. The Columbia River that emerges from The Organic Machine is a cyborglike

cultural artifact, a blend of the human and the natural, that not only serves and obeys but

also confounds and frustrates those who must address the consequences of the process of

Beyond the Organic Machine (Review Essay)

Beyond the Organic

Machine?NewApproaches

in River Historiography

Abstract

This article considers the growth of river historiography in environmental history and the influence of foundational works, with a particular focus on Richard White’s The

Organic Machine. While environmental historians have increasingly rejected oppositional ontologies and engaged hybrid approaches in their studies of rivers, they have also

moved beyond White’s specific concerns and developed a range of new substantive areas of focus while exploring alternative conceptualizations of human relations with rivers.

Studies of international rivers have followed flows across borders, seeking to understand them both as transnational

subjects and as dynamic geopolitical problems. Urban river

historians have posed new questions about the coevolution

of cities and rivers and emphasized the importance

of rivers in the making of urban space and of cities in

the restructuring of watersheds. Future work must continue

to develop comparisons and theoretical engagements and

address emerging planetary narratives.

In 2008, David Blackbourn, author of an important study of water

and landscape in German history, asked in a somewhat tongue-incheek

fashion: “Why are there so many river historians?”1 Over little

more than a decade, several major books had appeared, including

Richard White’s The Organic Machine: The Remaking of the Columbia

River and Marc Cioc’s The Rhine: An Eco-Biography, both of which had

drawn audiences not just interested in rivers but also in larger questions

and problems: how should we think about the relations between

nature and culture; what have been the effects of

industrialization; and how have states reorganized environments?2

Alongside White’s and Cioc’s books, a series of edited collections and

regional monographs appeared pursuing related questions and adopting

the river basin as the unit of study. Environmental historians

sought to understand how people had transformed rivers and how

rivers, in their turn, had transformed societies. Since 2008, the stream

of river histories has yet to abate.3

Blackbourn believed that there were two principal reasons for this

river turn. First, the growth of river historiography reflected a wider

concern with the environment. In this respect, it mirrored and propelled

the rise of environmental history more generally. Re-reading

the prefaces and introductions of many river histories, it is difficult to

disagree. This is how many environmental historians justified their

choice of rivers—as good subjects with which to address a wider set of

issues linking nature and society. The perceived contemporary crisis

of large dams and debates about water politics were often invoked

and linked to the global transformation of the hydrosphere. Second,

Blackbourn noted the importance of river writing as a new expression

of a place-based or place-sensitive form of historical narrative.

Against a structuralist approach, environmental historians were

drawn to think about the importance of local knowledge, tending

more towards the site-sensitive and culturally specific social science

of Clifford Geertz, he averred, than the large social structures of

Charles Tilley. Blackbourn hastened to add, however, that environmental

historians were also trying to understand rivers as flows that

crossed borders and that drew from, and were related to, wider global

processes. The rise of river histories, in this sense, represented an attempt

to find a literary form that could express the necessary tension

between human and environmental change at the intersection of different

spatial scales, while also sensitively treating the many cultural

associations of place.4

Blackbourn’s question prompts reflection about how and why environmental

historians came to study rivers. Looking back over the past

thirty years of river historiography, several key texts shaped the field

from Donald Worster’s Rivers of Empire to Marc Cioc’s The Rhine, but

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perhaps none more than Richard White’s The Organic Machine.5

Widely cited and discussed, White’s book provided a new language to

conceive of dynamic human–riverine relations and to move beyond

nature–culture binaries. While river historians increasingly rejected

oppositional ontologies and engaged hybrid approaches in the spirit

of The Organic Machine, they also moved beyond White’s specific concerns

and developed a range of new substantive areas of focus.

Although the field today is vast and diverse, two important bodies of

work have developed around international rivers as well as urban rivers.

Studies of international rivers have followed flows across borders

seeking to understand them both as transnational subjects and as dynamic

geopolitical problems. Urban river historians have posed new

questions about the co-evolution of cities and rivers and emphasized

the importance of rivers in the making of urban space and of cities in

the restructuring of watersheds. The river turn has been sufficiently

productive that we may now have reached a point where greater comparative

and theoretical engagements are both warranted and

needed, allowing us to extend comparisons more deliberately and systematically,

to explore new methods, and to theorize beyond the canonical

concepts and metaphors, particularly as river historians seek

to connect their studies at different scales and to place them within

larger planetary narratives.

ORGANIC MACHINES

Rivers did not figure prominently in the early work of environmental

historians. Thirty years ago, when White charted the rise of

American environmental history, he identified an important body of

work on water and the US West focusing on contests over a finite resource

and problems of policy, allocation, and control.6 The major

contributions to the field included Norris Hundley, Jr.’s history of the

Colorado compact, Donald Pisani’s From Family Farm to Agribusiness,

and, beyond the region, Nelson Blake’s study of water management

in Florida.7 In general, he argued, historians of water and the West

treated only implicitly the “relationship between economic organization

and environmental change.”8 Interestingly, given White’s own

future work on the Columbia River a decade later, he made no reference

to earlier traditions of river writing in American letters, such as

the Rivers of America series.9

Published in the same year as White’s review essay, Donald

Worster’s Rivers of Empire: Water, Aridity and the Growth of the West,

built on the foundations of Western water scholarship but charted

new possibilities.10 Broad in ambition and composed in an expansive

prose style that encompassed the West as well as its connections to

the world, Rivers of Empire sought to harness the rejected

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environmental determinism of Karl Wittfogel’s Oriental Despotism, revise

it drawing on the social theory of the Frankfurt school, and reapply

it to the American West. In Worster’s text, “the relationship

between economic organization and environmental change” was explicit

and bold. Charting the growing scale and significance of irrigation

agriculture in the West, Worster followed the experts who

imported water control technologies from the British Empire and

then re-exported their ideas elsewhere. He recounted the growing

scale of state intervention initiated by the Reclamation Act of 1902

and pursued the problem forward. Although many rivers flowed

through this text, Worster did not conceive his history as a river history;

rather, it was the history of a conquering civilization in a dry

land, and it examined how the state and capital combined to appropriate

and control water to facilitate private capital accumulation,

notwithstanding the social and environmental effects. While Worster

would later call on environmental historians to pay due attention to

“the blooming, buzzing, howling world of nature,” Rivers of Empire

spoke more directly to his related aim to study “the reorganization of

nature.”11

Ten years passed between the publication of Worster’s Rivers of

Empire and another path-breaking text on Western water history,

Richard White’s The Organic Machine: Remaking the Columbia River.

Whereas Worster’s book addressed the West as a whole, White’s

encompassed a single basin of an admittedly large river. While

Worster looked outward for the range of international connections

that marked his story of conquest and accumulation, White kept his

sights trained on the Columbia River while nevertheless addressing

large questions. Unlike Worster who focused on the control of

Western waters and the human appropriation of nature, White

looked for the natural in the cultural and the cultural in the natural,

exploring the blurred boundaries that brought humans, salmon, and

flowing water into complex and evolving relationships.

Using the protean concept of energy, and placing a new focus on

human bodies and labor as a way of knowing, White cut across the

oppositional bounds of nature and culture and looked at ways in

which these categories were bound up with each other, or blurred at

their edges, like overlapping currents in a braided stream. “I want to

examine the river as an organic machine,” he explained, “as an en-

ergy system which, although modified by human interventions,

maintains its natural, its ‘unmade’ qualities.”12 The energy system

that White had in mind was as much metaphorical as material. He

sought to understand the work that the river did in carving its path;

the process by which salmon burned calories as migrants and deliv-

ered them to human fishers; the way in which people tried to harness

the power of the river and also dealt with the power of the river in

flood. While bringing the natural and the cultural together throughshared concepts of energy, work, and labor, White also managed to

analyze how the river became contested and politicized through colonial

processes, among contending federal agencies, and between different

economic interests. While the book contained familiar stories

of fisheries depletion and dam building, it did not invoke normative

terms like rape, loss, or death by way of misplaced explanation. “We

have not killed the river,” White argued, “we have disappointed

ourselves.”13

The Organic Machine’s major analytical contribution emerged from

its subtle reinterpretation of the nature–culture debate, which in the

early 1990s tended to polarize environmental historians according to

their different approaches to social constructivism. This debate had

run like a tension cord through the Journal of American History’s environmental

history roundtable in 1990, provoking various critiques of

the field from without and animating a special workshop on the reimagination

of nature organized by William Cronon that resulted in

the groundbreaking collection, Uncommon Ground.14 White’s contribution

to this volume on “knowing nature through labor” addressed

what he took to be some of the failings of contemporary environmentalism

but developed a perspective on work and the human body that

resonated with his approach to the Columbia.15

Coming as it did at a time when scholars across the social sciences

and humanities were debating and searching for new non-oppositional

language and models to conceive of human–environment relations,

The Organic Machine gained a wide audience, well beyond river historians.

Ten years after its publication, Benjamin R. Cohen hailed

White’s book as a “citation classic and foundational work” and noted

its adoption in over 100 classes across the United States.16 In a recent

historiographical essay on the American environmental history field,

Paul Sutter deploys White’s work as representing a basic historiographical

shift towards the study of hybrid natures: “Where the first

generation of American environmental historians might have seen a

dam thrown across a river in the western United States as an act of

domination, of human artifice destroying a natural system, the second

generation has been more likely to characterize such an intervention

as creating a ‘second nature’ of the river, or, to use Richard

White’s phrase, an ‘organic machine’.”17 An analysis of Google

Scholar citation counts for The Organic Machine in the spring of

2018—an admittedly imperfect index of scholarly influence—yields

an interesting pattern of reference and reach. Of the book’s over 800

citations, I estimate that only a quarter or less cite the book in the

context of rivers or river history, and an equivalent proportion cite

the book in terms of regional history.18 The majority of citations link

to the work from disparate vantage points from literary theory to

ecology and in the context of studies located in every continent,

save Antarctica. Widely recognized, The Organic Machine nevertheless had its greatest

impact on river historians, who adopted White’s perspective and

language as their own. “Every river is an ‘organic machine’,” noted

Cioc in his eco-biography of the Rhine, by which he meant to underline

the importance of attending to the linked history of people and

the rest of nature realized in flowing water, but through which he

also tellingly revealed the extent to which this phrase had come to

encompass a new historiographical consensus.19 The phrase organic

machine became a kind of shorthand. “Spillways were just another

step toward making the Mississippi into what Richard White, referring

to the Columbia River, has called an ‘organic machine’,” wrote

Ari Kelman in his history of New Orleans and the Mississippi.20

Introducing an edited volume of river histories in 2008, Christof

Mauch and Thomas Zeller reviewed the historiography and summarized

the new perspective well: “Most historians now discuss rivers in

terms of permanent or dialectical interchanges between the dynamics

of nature and human intervention. Ideas about rivers and water projects—

cultural and technological constructions—have changed both

the appearance and functions of rivers over the centuries. At the

same time, rivers are themselves agents, providers of energy and

resources, and a driving force in history.”21

Despite the wide influence of The Organic Machine in river historiography,

it is worth noting that most river histories written in the past

twenty years have approached their subjects differently from White.

Few historians, even those working on hydro-electric development,

have similarly deployed energy as a central framing concept.22 The

nearest example might be Micah Muscolino’s Ecology of War in China,

which interrogates energy as a material and political force to illuminate

the environmental history of war and dike destruction on the

Yellow River during the Second World War.23 Nor have other river

historians followed White in thinking about how the human body

serves as a crucial entry point into thinking about the blurred boundaries

of nature and culture. Linda Nash’s analysis of the role of language

in mediating human perceptions of nature on the Skagit River

begins from the premise that knowledge is embodied and builds

upon White’s study of the Columbia but with a focus on discourse.24

Joy Parr’s Sensing Changes on Canadian mega-projects, including large

river projects, thinks productively about the sensing body as an archive

of environmental history, but she finds her inspiration in a diverse,

interdisciplinary literature, not in White’s The Organic

Machine.25

While a whole new field has emerged in energy history, and many

environmental historians have pursued the history of the body in

studies of disease and health, river historians arguably have not followed

White in these directions. The influence of The Organic

Machine would seem to turn most centrally on its conceptualreconciliation of nature and culture at large and not in its research

strategies or modes of analysis. As one of the first and most influential

examples of what Verena Winiwarter, Martin Schmid, and Gert

Dressel call “co-evolutionary histories,” which dispense with

“impact-driven degradation or conquest narratives,” The Organic

Machine led the way but did not exhaust the possibilities.26

The Organic Machine laid down some important parameters for the

study of river history, but the field has diverged and changed in the

last twenty years. New problems and methods have come into focus.

The conversation has broadened beyond North America as well as the

English language. The debates about nature and culture and blurred

boundaries that pre-occupied environmental historians in the mid-

1990s, particularly in North America, have taken on a different dimension

in the twenty-first-century discourse of global climate

change and the Anthropocene and as new connections have been

struck with other fields. Sara Pritchard’s work on the Rhoˆne River, for

example, seeks to integrate environmental historical questions with

problems and approaches in the history of technology. The envirotechnical

method she champions “extends Richard White’s notion of

‘the organic machine’ beyond either the ‘natural’ dimensions of

‘technology’ or the ‘technological’ features of ‘nature’ to challenge

the very boundaries between both these categories and artifacts.”27

Although The Organic Machine continues to be read and shape the

field, recent work has approached rivers with different questions and

frames, both analytical and spatial.

ESCAPING THE FALSE BINARY OF NATURE

AND CULTURE THROUGH CONNECTION

Richard White’s The Organic Machine: The Remaking of the Columbia River

BENJAMIN R. COHEN

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In The Organic Machine, Richard White fruitfully undermined the ease of separating nature

from culture by emphasizing their relationship rather than their distinct identity. Now a staple

of university curricula, White’s text has become the standard bearer for a methodology

that befits environmental history as well as all manner of environmental studies. With his

nuanced presentation of the political, ethical, social, and technological dynamics of land

and water management, White has offered students and scholars the framework and model

with which to move beyond binary approaches to nature and culture issues. The work is particularly

well-regarded for its philosophical clarity and subtle consideration of environmental

and technological ethics, standing as one of the few treatments of the postmodern era to

argue against simplistic dichotomies while remaining outside the fray of constructivist

counter-critiques. This article treats The Organic Machine for its deepening relevance to

environmental scholarship by revisiting its themes and structure.

Keywords: environmental history organicism; mechanical philosophy; technology; land

use; salmon

Richard White’s The Organic Machine, now just a decade old, is a phenomenally

concise work of insight and depth (White, 1995b).1 It is

ostensibly about the well-canvassed subject of the Columbia River, taking as its

focus a narrative about howhumans have known the river and its salmon in the past

two centuries. Ostensible is the keyword, as it intimates that the true frame of the

work lies far beyond its most easily summarized content. Moreover, White’s

novella-like text offers a powerful methodological model for environmental scholars.

Without being abrasive, it suggests some of the pitfalls of contemporary environmental

history; it elucidates awork-based environmental ethic that is not reducible

to simple anthropocentric or ecocentric terms; and, almost incidentally, it tells

a history of work on, in, and with the Columbia River that is nothing but fascinating.

It is, furthermore, one of those rare books accurately blurbed upon publication,

as Leo Marx called it on the back cover, a “little crystalline gem of a book.” And it

is, finally, that uncommon instant classic: one that stands beyond its years upon

publication, but also escapes the kind of widespread entrenchment into a canon that

might leave it to remain, oddly enough, spoken of but unread. InWhite’s case, as he

melds cultural geography, land use theory, environmental philosophy, salmon and riparian history, and the history and politics of technology, the book has been hard

to pigeonhole. To be sure, most standard syllabi in environmental history curricula

include the book, but its applicability for environmental ethics, philosophy, and

technology studies is also outstanding.

White is a historian and a former Macarthur Fellow. His scholarship has consistently

been at the forefront of both western United States history and environmental

history. Starting with Land Use, Environment, and Social Change: The Shaping

of Island County,Washington, and through his Pulitzer Prize-nominated The Middle

Ground: Indians, Empires, and Republics in the Great Lakes Region, 1650-

1815, he has been concerned not just with the associations of human and nature,

but with the multiple subelements that fall under the inadequate headings,

“human” and “nature” (White, 1980, 1991). By the mid-1990s, when he published

The Organic Machine and another conceptually consistent essay, ”Are You an

Environmentalist or Do YouWork for a Living?” (White, 1995a), the focus of his

writing was to emphasize the work we do to know the nature we live in.

The purpose of The Organic Machine is to understand howhumans have continuously

known nature through work, labor, activity, and connectedness. The baseline

holding the natural—that is, unmade by humans, in White’s presentation—

and cultural together is energy. The constituent elements of various forms of

energy have changed over time—we work differently now from how we did in

1800, for example; our scientifically modeled virtual river computer programs give

us a different view of the river than the Nez Perce’s fishing gear did—but this does

not signify an increasing disengagement from nature. Rather, it shows our new

ways of engagement, with greater technological sophistication, but with a continuing

dependence on the river as a river. Mediation is a big theme (see pp. 31, 32,

and 37).

What stands between us (human) and not us (unmade nature)? In an effective

analogy, White likens his mission to that of one writing the biography of a marriage.

One would not write the biography of a husband, then the biography of a

wife, stick them together, and say it was the biography of a marriage. One would

write, instead, about the marriage itself, that is, the relationship. The tensions that

arise within that mediation are the primary focus of White’swork. He examines not

one side or the other but what lies between; he examines not nature or culture, and

not nature and then culture, but their integration (see pp. x, 23, 59, and 86).

The myth of purity, then, is the central problem to be overcome. To put it in

White’s (1999) own words,

[The Organic Machine’s] thesis is that the bestway to understand the river is as an

entity that has been in constant flux. Gradually human beings have modified it.

They have created the illusion of conquering the river, of turning it, as the common

phrase is in the Pacific Northwest, into a series of slackwater lakes. We apply

social language to the river. We have raped it or killed it; but such language is

deceptive. We have changed the Columbia to the detriment of some species and

the benefit of others. Where once the Columbia said salmon, it now says shad and

squawfish. The Columbia is not dead. . . . The dams depend on larger natural

rhythms of snowfall and snowmelt, of rain and gravity and seasons, but we have

created a system where what is natural and what is human becomes harder and

harder to distinguish. Each intrudes on and influences the other. The river has

become an organic machine. (p. 221)

White’swork can thus be situated into the context of escaping from the false binary

of nature and culture. This occurs less by denying expressions of a distinction

between the two than by focusing instead on their mixture.

It would be tempting, now, in a decade of retrospect, to place the book as a new

turn in the relatively young field of environmental history, a reasoned entry into the

scholarly debates about the validity of constructivist accounts of nature, or a forceful

argument that the humanities are a necessary component of environmentalism.

All of those are true, but each partial. Legitimate scholarship in environmental history

is indeed but a fewdecades old, at most. Academic debates such as the science

wars, with their forums for contesting constructivist accounts of nature, quickly

crossed into the realm of environmental studies, perhaps most distinctly with

William Cronon’s (1995b) edited work, Uncommon Ground.With his attention on

practices of knowledge–making, as with labor andwork, White’s writing similarly

was consistent with the turn to practice in science studies in the earlier 1990s

that put the activities scientists do—their work—into focus (see Golinski, 1990;

Pickering, 1992; Rouse, 1996). Although White stands away from studying the

social history of ecological sciences, his concern for the integration of culture and

naturewas exactly the concern of a growing number of postconstructivist accounts

of natural knowledge (see Asdal, 2003; McNeill, 2003; Rouse, 2002). And so the

question, “How do we even know what this nature that we’re so concerned about

is?” was precisely the point, and precisely the theme of White’s work.2

The Organic Machine is now a citation classic for its ubiquity in university curriculum

and environmental scholarship, its benchmarking status against which

otherworks are gauged, and its recognized utility in foregrounding the problematic

assumptions of popular environmentalism. In the first place, a survey of university

syllabi shows that White’s text is now a standard bearer for an impressive array of

graduate and undergraduate courses.

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social history of ecological sciences, his concern for the integration of culture and

naturewas exactly the concern of a growing number of postconstructivist accounts

of natural knowledge (see Asdal, 2003; McNeill, 2003; Rouse, 2002). And so the

question, “How do we even know what this nature that we’re so concerned about

is?” was precisely the point, and precisely the theme of White’s work.2

The Organic Machine is now a citation classic for its ubiquity in university curriculum

and environmental scholarship, its benchmarking status against which

otherworks are gauged, and its recognized utility in foregrounding the problematic

assumptions of popular environmentalism. In the first place, a survey of university

syllabi shows that White’s text is now a standard bearer for an impressive array of

graduate and undergraduate courses. Read in no less than a hundred classes, The

Organic Machine finds favor with watershed planners, philosophers, environmental

historians, historians of the United States and theWest more specifically, labor

historians, cultural studies scholars, ecologists, geologists, land use studiers, science

and technology studies scholars, biodiversity and bioregionalism studiers,

and even English departments. Second, an informal survey of recent scholarship on

the nature, politics, and social dynamics of rivers and “place” shows that new

monographs are frequently understood and evaluated by comparison to White’s

text.3 For example, we find a series of monographs on environment, region, and

technology directly compared to White’s strategy for bringing “technological

innovation into the exploration of the meaning of place” (Black, 1999, p. 387). A

study of the 1890s Klondike River gold rush, likewise, is understood chiefly in

relation to White’s “large interpretative frameworks,” just as a book about the

Upper Mississippi is read as taking its cue from White to describe that river as “neither

entirely natural nor completely controlled” (Wynn, 2005, p. 246; Harvey,

2004, p. 433). A later book about that Columbia River, to take a final example, is

described as failing for not having moved beyond “moralistic dilemmas” as White

had done (Johnson, 1998). In a third claim to citation classic status, White also provided

a useful and necessary counterpoint to a wayward environmentalism that

presumes a clean nature/culture break by elaborating many of the points made in

his article, “Are You an Environmentalist or Do YouWork for a Living?,” as scholars

in this journal have pointed out (Cannavó, 2001; White, 1995a). Peter Cannavó,

for example, places White’s argument against that of Bill McKibben and others. As

Cannavó summarizes it, White shows that “nature may seem separate from our

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daily lives, yet we are still materially enmeshed in the biosphere, even if we live

in cities and work at desks” (Cannavó, 2001, p. 84). White’s point, and Cannavó’s,

is that the imposition of an easy nature/culture dichotomy is dangerous and

misleading—politically, ethically, and historically.

White’s text is certainly one of the more aptly titled works of recent times. The

organicmachine is neither organic normechanical, but both. The title is also indicative

of the broader relevance of this small book about the Columbia River, because

it helps foreground howwe consider organicism and mechanism. Because the relationship

between technology and the environment is so prominent in humanitiesbased

environmental studies, a culturally historicalwork such as this helps map out

the broad transition of our modern era from organic philosophies to mechanical

ones. That transition broadly defines the span of the 17th to 20th centuries and

tracks the rise of a mechanical-industrial “second nature.” It also places the human

imposition of technological infrastructure and mediation into a greater light. But

White’s approach makes studies of technology in the environment more relational

than dichotomous, forcing the always organic element of our human-nature relationship

to the foreground.4 At the end of his text, White reminds us that our tendency

to break the machines of the river apart simply “does notwork” (p. 112). Try

as we might, mechanisms cannot escape the organicworld in which they are based.

Put another way, and given the focus in environmental literature—and in this journal

more specifically—on the validity or not of anthropocentrism, White’s work

has offered another way to treat the human place in nature without becoming

reduced to anything simply anthropocentric or simply ecocentric (e.g., Hoffman&

Sandelands, 2005; Minteer&Manning, 2005). White’s status as a syllabus regular

indicates the frequency with which such reductive views are debated while demonstrating

the widespread appreciation of the conceptual, ethical, and methodological

structure offered within the book.

This essay approaches The Organic Machine as a combination of citation classic

and foundational work. White’s text is a short book that stood as classic-worthy

upon its publication. It has since offered a conceptually evocative and historiographically

rigorous model for making a study of mixtures, not purity, possible and

for making the topics of human and natural history integrated.