Following New Lights: Critical Legal Research Strategies as a Spark for Law Reform in Appalachia

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Cover Page Footnote
Library Faculty, West Virginia University College of Law. For early comments on this Article, a heartfelt thanks to Anne Marie Lofaso, the Associate Dean for Faculty Research and Development at the WVU College of Law, Charles R. DiSalvo, the Woodrow A. Potesta Professor of Law, and Associate Professor Matthew Titolo. For suggestions on completed drafts and revisions, I deeply thank Associate Professor William Rhee, Associate Professor Lynne F. Maxwell, and Library Faculty members J.R. Kerns and Stacy Etheredge. Much appreciation also to John D. Pizzo for his research assistance. Finally, I need to thank Jenna Noelle Sizemore, my spouse, and a physician, for her invaluable insights into Appalachian public health reform.
FOLLOWING NEW LIGHTS: CRITICAL LEGAL RESEARCH STRATEGIES AS A SPARK FOR LAW REFORM IN APPALACHIA

NICHOLAS F. STUMP*

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* Library Faculty, West Virginia University College of Law. For early comments on this Article, a heartfelt thanks to Anne Marie Lofaso, the Associate Dean for Faculty Research and Development at the WVU College of Law, Charles R. DiSalvo, the Woodrow A. Potesta Professor of Law, and Associate Professor Matthew Titolo. For suggestions on completed drafts and revisions, I deeply thank Associate Professor William Rhee, Associate Professor Lynne F. Maxwell, and Library Faculty members J.R. Kerns and Stacy Etheredge. Much appreciation also to John D. Pizzo for his research assistance. Finally, I need to thank Jenna Noelle Sizemore, my spouse, and a physician, for her invaluable insights into Appalachian public health reform.
The nascent “critical legal research” movement applies the constellation of critical theory to the American legal research regime. Work in this discourse has unpacked the means through which commercial print and online legal resources (e.g., Westlaw and Lexis) insidiously channel the efforts of legal researchers, essentially predetermined research outcomes. Although legal research is commonly conceived as a normatively neutral paradigm, such commercial homogenizing agents (paired with traditional methods of legal analysis) in fact reflect and perpetuate society’s dominant interests.

As grounded in the existing literature, this Article outlines novel strategies that may together constitute one potential version of a critically reconstructed legal research process. The overarching aim of this reconstructed process is to jumpstart the development of progressive law reform initiatives. Such key strategies include a more targeted utilization of commercial and non-commercial legal resources, an increased practitioner reliance upon a wide range of theoretical materials (i.e., as potential touchstones for innovation), and the cultivation of synergistic brainstorming sessions involving grassroots activists and other diverse...
constituents.

This Article explores the critical legal research process in the specific context of Appalachian law reform efforts. Currently, mountaintop removal mining is wreaking social, economic, and environmental devastation on the region. In applying the critical research process to the sociolegal framework governing mountaintop removal, it becomes clear that core feminist methodologies—and the ecofeminism movement, in particular—may yet offer crucial insights that can contribute greatly to reform efforts. This illustrative application of critical research strategies demonstrates the transformative potential of the novel reformist practice.

[F]ind your place on the planet. Dig in, and take responsibility from there. . . . Even while holding in mind the largest scale of potential change. Get a sense of workable territory, learn about it, and start acting point by point.

—Gary Snyder

Legends of dogwood
cover scars on coal-bleeding
Appalachia.

—Barbara Smith

I. INTRODUCTION

It is little understood that a critical approach to the resources and methodologies associated with the contemporary legal research process can serve as a crucial vehicle for progressive sociolegal change—otherwise known as normative reconstruction. However, through the work of such scholars as Richard Delgado, Jean Stefancic, and Jill Anne Farmer, the outlines of such critical legal research strategies can be discerned, and may

1. GARY SNYDER, Four Changes, in TURTLE ISLAND 91, 101 (1974). A noted Buddhist poet and activist, Gary Snyder in his “programmatic manifesto ‘Four Changes’ . . . outlines the kind of enterprises he believed the country needed in order to maintain ecological diversity and make salutary changes as a culture.” See Aaron K. DiFranco, Gary Snyder, in THE OXFORD ENCYCLOPEDIA OF AMERICAN LITERATURE 61, 63 (Jay Parini ed. 2003).

2. Barbara Smith, Appalachian April, in APPALACHIA INSIDE AND OUT: CONFLICT AND CHANGE 185, 185 (Robert J. Higgs et al. eds., 1995). Barbara Smith, author, historian, and retired Chair of the Division of Humanities at Alderson-Broaddus College, Philippi, West Virginia, is widely celebrated for her efforts “to improve quality of life in Southern Appalachia.” Id.
assist reformist-minded attorneys in achieving such change.\textsuperscript{3} The overarching crux of the modern critical legal research process is that attorneys ought to look beyond the deeply problematic “ready-made body of developed law,” and should instead think “outside the box” in “reinventing, modifying, flipping, and radically transforming legal doctrines and theories imaginatively.”\textsuperscript{4} Although a definitive encapsulation of such a process is elusive (due to its multifaceted and necessarily ever-evolving nature), prominent examples of critical legal research strategies to date include the following: a more nuanced use of premier and alternative legal research databases, based in part on a critical deconstruction of database structure and functionality;\textsuperscript{5} a newfound practitioner reliance upon theoretical resources as potential touchstones for innovation, as compared to more traditional legal resources in a vacuum;\textsuperscript{6} and a rediscovery of the profound importance of “unplugged” brainstorming sessions as a means for achieving genuine legal innovation.\textsuperscript{7} Much may be achieved in terms of progressive law reform by utilizing such critical techniques in conjunction with the more traditional legal research process.

In this Article, such critical research strategies are explored and then examined in the specific context of the Appalachian legal research landscape. As has been well documented, the Appalachian region of the United States faces unique, and often pronounced, socioeconomic and environmental challenges.\textsuperscript{8} Prominent among these issues include rural


\textsuperscript{4} See Delgado & Stefancic, supra note 3, at 328.

\textsuperscript{5} See id., at 318-25; Farmer, supra note 3, at 396-403.

\textsuperscript{6} See Farmer, supra note 3, at 403.

\textsuperscript{7} See Delgado & Stefancic, supra note 3, at 328.

\textsuperscript{8} See Bryan C. Banks, High Above the Environmental Decimation and Economic Domination of Eastern Kentucky, King Coal Remains Firmly Seated on Its Gilded Throne, 13 BUFF. ENVTL. L.J. 125, 126-27 (2006) (“[T]hose [who] live at the
poverty, joblessness, uneven economic development, sociopolitical inequities and disenfranchisement (with special problems pertaining to race, gender, and class subordination), inadequate infrastructure and services, and, lastly, environmental and public health concerns associated with the natural resource extraction industry.

Much has been written about these issues—however, in regard to concrete strategies for law reform in Appalachia, what remains as a fertile, untapped resource is the potentially transformative power of the critical approach to legal research. With this transformative potential in mind, this Article applies the evolving framework of the critical research process, in a preliminary sense, to an area of law in need of desperate reform in Appalachia (and one that exists at the intersection of the issues broached.
above): the law governing mountaintop removal mining. This tentative application will demonstrate that critical legal research strategies may serve as a powerful reform tool in the embattled Appalachian region.

This Article is divided into three parts: Part I provides an overview of the legal publishing industry, Part II introduces the critical analysis of the American legal research regime, and Part III applies that analysis to the framework governing mountaintop removal mining. Part I itself is divided into three subparts. In Part IA, the historical development of the legal publishing industry is summarized, demonstrating that, first, the ascendant producers of commercial legal resources—West Publishing, most notably—have exercised a century-long marketplace hegemony.¹³ Seismic shifts within the contemporary legal publishing industry have only exacerbated this state of affairs. That is, in confluence with the rise of free market globalization, a triumvirate of legal publishers (i.e., Thomson Reuters, Reed-Elsevier, and Wolters Kluwer) have neutralized most third-party competitors, thereby creating a transnational legal publishing oligopoly.¹⁴ That commercial legal resources constitute the most egregious agents of homogenization for research outcomes is due—in no small historic part—to this long-term degradation of diversity in the legal publishing industry.¹⁵

Part IB tracks the market transition to online legal resources, and thereafter Part IC provides a comparative analysis of the print and online research mediums. This analysis demonstrates that, contrary to popular perception, the transition to the online medium has not revolutionized the legal research paradigm because commercial resources and search tools, as rendered in online formats, continue to perpetuate the publishers’ channeling influence on research outcomes.¹⁶ Part ID details the traditional, or unreconstructed, legal research process, revealing its Langdellian formalist underpinnings, and thus its emphasis on a classic search for the “one right answer” or “correct” ratio decidendi.¹⁷ Historically, legal research has been viewed as a normatively neutral enterprise, wherein discrete legal queries are matched formulaically with supposed binding precedent.

Part II is divided into five subparts. Part IIA and IIB introduce the

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¹⁵ See Farmer, supra note 3, at 397-99.

¹⁶ See Delgado & Stefancic, supra note 3, at 318-25.

¹⁷ See Deconstructing, supra note 3, at 619-20; Triple Helix Dilemma, supra note 3, at 316.
emerging discourse on critical legal research. This movement applies critical theory to the institution of American legal research: that is, to the commercial resources and systemic methodologies associated with the research process, as taught as a cohesive pedagogy in the law school curriculum and utilized in practice. This Part demonstrates that the core insights proffered by the Critical Legal Studies (CLS) movement and its theoretical progeny—i.e., that legal doctrine is incoherent and indeterminate, and that categorizations of law are inherently problematic—are conceptually inseparable from the formalist-based institution of legal research. Through this critical lens, traditional legal research is revealed as a wholly subjective process, and moreover, largely perpetuates the political and ideological dictates of society’s dominant interests.

Part IIC and IID unpack the multitudinous aspects through which legal research, both print and online, furthers socially conservative ends. The West Topic and Key Number system, the preeminent legal categorization scheme, is instrumental in print legal research—and through its subjective taxonomy of legal concepts, serves to reify the dominant ideologies of Western liberalism. Online research, although supposedly freeing to the researcher, in fact insidiously predetermines research outcomes through the following mechanisms: search algorithms embedded with such features as automated input from West categorization and citation systems, in addition to crowdsourcing attributes; enhanced citation systems that crosslink primary authority to editorially selected, brand-based analytical materials; the online medium’s facilitation of mere fact-based searching; and the pitfalls of free Internet sources, including, most alarmingly, West’s success—through its legal-conceptual hegemony—in pervasively influencing research outcomes regardless of the resource used.

Part IIE details strategies that may together constitute one potential version of a critical-based, reconstructed legal research process. As introduced above, central to such a critical process is searching outside the “system box” of commercial legal databases—and then in adopting ever-creative approaches to law reform, through such methodologies as

20. See Delgado & Stefancic, supra note 3, at 308-09.
23. See Farmer, supra note 3, at 401; Alan Wolf & Lynn Wishart, Shepard’s and KeyCite Are Flawed (or Maybe It’s You), N.Y. St. B.A. J. 24, 25 (2003).
24. See Delgado & Stefancic, supra, at 323.
25. See id. at 310.
synthesizing, as applicable, existing legal concepts, emerging policy needs, critical theory, and so on.\(^{26}\)

Part III, which is divided into two subparts, applies the critical legal research process, as envisioned in this Article, to the law governing mountaintop removal mining. Part IIIA provides an overview of the Appalachian coal extraction industry and then of mountaintop removal mining specifically. Through the phenomenon known as the natural resource curse, the coal extraction industry long has wrought environmental, social, and economic devastation on the Appalachian region.\(^{27}\) Moreover, in recent decades, mountaintop removal mining has emerged in Appalachia as a dominant (and singularly destructive) form of surface mining.\(^{28}\) Legal strategies to halt mountaintop removal mining have focused on the complex federal and state regulatory scheme involving the Surface Mining and Control Reclamation Act (SMCRA), the Clean Water Act (CWA), and the National Environmental Protection Act (NEPA).\(^{29}\)

Specifically, environmental plaintiffs have sought federal court enforcement of these Acts.\(^{30}\) Although the plain language of the CWA and NEPA, in particular, overwhelmingly favors such plaintiffs, the Fourth Circuit has ruled nearly without exception for the coal extraction industry.\(^{31}\) Potential common law remedies in tort, including negligence and nuisance actions, also remain largely undeveloped against mountaintop removal operations, due in large part to unfavorable political and sociolegal conditions in the region.\(^{32}\)

Part IIIB applies critical research strategies to mountaintop removal law. First, this Part provides a discussion on how a hypothetical researcher may locate such law through the traditional, concept-based legal research

\(^{26}\) See id. at 328.

\(^{27}\) See Joyce M. Barry, STANDING OUR GROUND: WOMEN, ENVIRONMENTAL JUSTICE, AND THE FIGHT TO END MOUNTAINTOP REMOVAL 23 (2012) [hereinafter STANDING OUR GROUND].


\(^{30}\) See id. at 181–85.

\(^{31}\) See id. But see S. Appalachian Mountain Stewards v. A & G Coal Corp., 758 F.3d 560, 569 (4th Cir. 2014) (ruling in favor of environmental plaintiffs). This decision is discussed infra Part III(A)(2).

process. Second, an analysis demonstrates how the premier legal databases channel the researcher’s efforts in locating the existing mountaintop removal legal framework. In terms of the West Topic and Key Number system, West editors engage in subjective legal classifications of the points of law at issue in prominent mountaintop removal cases like *Ohio Valley Environmental Coalition v. U.S. Army Corps of Engineers*. Research outcomes also are influenced through the publishers’ practice of editorially selecting and then crosslinking brand-based analytical resources through citator systems to key mountaintop removal statutory sections such as CWA § 404.

What is more, the WestSearch algorithm uses automated input from the West categorization and citation systems for all keyword searches performed on the database—and thus every mountaintop removal search performed on the database necessarily is filtered through such West homogenizing agents. Finally, as the Langdellian curriculum was in fact explicitly modeled after the legal-conceptual hierarchies of the West Topic and Key Number system, the hypothetical researcher, as trained in the American law school system, has the West conceptual framework epistemologically “inscribed” on her mind—throughout all aspects of the research process, and no matter the resource used. Part IIIB next provides a concrete example of searching beyond the “system box” of commercial legal databases, in locating critical sources of inspiration for novel mountaintop removal law reform initiatives. The environmental justice movement, which details how minority and low-income populations share disproportionately in environmental harms, has been an active discourse both in mountaintop removal primary authority and in legal-analytical treatment of the mining practice. However, a dedicated feminist analysis of the law governing mountaintop removal mining is wholly absent from the law and discourse. But in using cross- and multidisciplinary resources, the researcher discovers that non-legal scholars, such as Women’s Studies Professor Joyce M. Barry, have indeed applied a feminist analysis to the Appalachian mountaintop removal

As advised by Delgado and Stefancic, the researcher may then “unplug” and engage in brainstorming sessions, in applying the feminist insights of Barry and others to existing mountaintop removal law. In particular, feminist-inspired law reform initiatives broached (tentatively) in Part IIIIB revolve, in part, around the extent to which women may share disproportionately in the harms wrought by mountaintop removal mining. Such disproportionate harms include quantifiable social and economic hardships borne more egregiously by Appalachian women than men, in addition to potentially increased susceptibility to toxins released in the mining process (although, as discussed below, this latter point is a complex one).

New law reform initiatives may involve explicitly accounting for such disproportionate harms in the public interest review requirements mandated
under the CWA permitting scheme for mountaintop removal.\textsuperscript{42} Concurrently, in line with feminist methodologies pertaining to contextual reasoning and consciousness-raising,\textsuperscript{43} such public review processes—in addition to other socio-institutional sites of change, such as the public health complex—may be infused, to a greater extent, with a reliance upon personal experiences of environmentally-affected subordinated groups.\textsuperscript{44} Such reform strategies as toxic tort litigation and legislative compensation schemes also are discussed in this section.

Part IIIB concludes with a brief vision of more transformative reform initiatives (i.e., initiatives targeting the \textit{systemic} forces of patriarchal liberalism at work in Appalachia), based predominantly on the core insights of the ecofeminism movement. Such reforms may entail—beyond merely halting mountaintop removal mining—radically restructuring the social and economic landscape of the Appalachian region along ecofeminist lines.\textsuperscript{45}

II. THE LEGAL PUBLISHING INDUSTRY

A. Historical Overview

The West Publishing Company was the foundational commercial producer of print legal resources in the United States. West Publishing has been in existence for over a century, providing such products as the National Reporter system, which revolutionized the dissemination of case law, and the West Digest system, an organizational scheme that classifies all areas of American case law into categories (and discrete sub-categories) known as the West Topic and Key Number system.\textsuperscript{46} Prior to the advent of these West resources, the reporting of American law was “unsystematic and disorganized,”\textsuperscript{47} as attorneys experienced difficulty in locating decisions without such standardizing agents. So successful were West’s products in providing order to the then-chaos of case law dissemination, that the ABA eventually endorsed both systems, effectively granting West a “semi-official status” that it still maintains to this day.\textsuperscript{48}

\begin{itemize}
  \item \textsuperscript{42} See Greener Voice, supra note 40, at 33 (“Where underlying gender differences are real, feminists seek to discredit not the assumption of differences, but the assumption that differences justify policies burdening women more than men.”).
  \item \textsuperscript{43} See id. at 43-53.
  \item \textsuperscript{44} See id. at 39.
  \item \textsuperscript{45} STANDING OUR GROUND, supra note 27, at 149.
  \item \textsuperscript{46} Triple Helix Dilemma, supra note 3, at 314; see also Robert C. Berring, Chaos, Cyberspace and Tradition: Legal Information Transmogrified, 12 BERKELEY TECH. L.J. 189, 191 (1997) [hereinafter Chaos].
  \item \textsuperscript{47} Delgado & Stefancic, supra note 3, at 313.
  \item \textsuperscript{48} See id. For a more comprehensive overview of the history of West Publishing
\end{itemize}
By the mid-twentieth century, West Publishing had vastly expanded its print offerings, producing many of the core materials associated with the modern legal publishing industry. West became entrenched as the leading commercial producer of the full array of primary and secondary print legal resources on the market, including the United States Code Annotated, the federal and state West Reporters, the West Digests (with the attendant headnotes schema), the Corpus Juris Secundum legal encyclopedia, practice books, and so on. Thus, the so-called print story of contemporary legal research resources has its firm genesis with the West Publishing Company.

The print story of the legal publishing industry also involves the early competitors to West Publishing. A significant example is the Lawyers Cooperative Publishing Company, West’s first substantial rival. Unlike West Publishing, the Lawyers Cooperative deployed a more selective publishing strategy, disseminating only a limited number of decisions in conjunction with its Total Client-Service Library (i.e., an integrated system of legal reference works). The Lawyers Cooperative also published the American Jurisprudence legal encyclopedia (in answer to West’s Corpus Juris encyclopedia) and the United States Supreme Court Digest, Lawyers’ Edition, among other notable titles still in print today.

Other salient examples of early West competitors abound. The Michie Company, established in the late nineteenth century, published a wide range of print legal materials, such as the United States Code Service and various state legislative codes. The Shepard’s Company produced the pioneering and now-ubiquitous citator service, a product allowing practitioners to determine the validity of found legal authority. Final examples of still-relevant historic publishers include Anderson Publishing, the Matthew Bender and Company, Callaghan and Company, and the Bureau of National Affairs, all of which emerged as prominent producers.


50. See id. at 822.

51. See KENDALL F. SVENGALIS, LEGAL INFORMATION BUYER’S GUIDE & REFERENCE MANUAL 8 (2014) [hereinafter LEGAL INFORMATION].

52. See id.

53. See id.

54. See id.
of specialized treatises, looseleafs, and related analytical resources.\textsuperscript{55}

The legal publishing industry in the latter half of the twentieth century has been marked by the ascendance of three transnational firms: Thomson Reuters, Reed-Elsevier, and Wolters Kluwer.\textsuperscript{56} The relaxation of antitrust laws in the 1980s and 1990s resulted in the formerly diverse legal publishing market to rapidly transition towards oligopolistic consolidation.\textsuperscript{57} Perhaps most notably, in 1996, the Canadian-based Thomson Corporation acquired the West Publishing Company—proceeded by Thomson’s acquisition of Reuters a decade later, resulting in the rise of the now-dominant Thomson Reuters Corporation.\textsuperscript{58} Throughout the 1990s, Thomson Reuters also acquired dozens of additional publishers (e.g., the Lawyers Cooperative, Callaghan and Company, etc.), folding each within its corporate umbrella.\textsuperscript{59}

In a similar fashion, a handful of competing transnational firms have acquired, leased, neutralized, or otherwise eliminated most third parties in the legal publishing market. Significantly, the English-Dutch publishing conglomerate Reed-Elsevier acquired LexisNexis, the Michie Company, and the Shepard’s Company in the mid-to-late 1990s, thus emerging as the contemporary rival to Thomson Reuters.\textsuperscript{60} Likewise, Wolters Kluwer, a Dutch-based corporation, acquired such publishers as the Commerce Clearing House (CCH), Wiley Law Publications, and Aspen Publishers, Inc., and now occupies a second-tier position behind Thomson Reuters and Reed-Elsevier.\textsuperscript{61} In more recent years, Bloomberg L.P. acquired the Bureau of National Affairs (BNA), propelling Bloomberg L.P. to a market sphere approaching that of the previously unrivaled legal publishing triumvirate.\textsuperscript{62}

Much of the prior three decades has been defined by a veritable explosion of primary, secondary, and related legal information resources, most of which were consolidated and eventually, developed by the few ascendant global legal publishers.\textsuperscript{63} In the information commerce context,
in which legal resources are indeed prized commodities, this legal publishing saga, played out on a global, multibillion-dollar scale, is an example of deregulated, post-industrial late capitalism in its most potent form.\textsuperscript{64} As is discussed in Part II of this Article, the homogenizing influence of contemporary legal resources, as produced by the legal publishing triumvirate, is a central concern of the critical research analysis.\textsuperscript{65}

\textbf{B. Transition to Online Legal Resources}

Since the latter portion of the twentieth century, legal research, in both the academic and commercial markets, has transitioned from a print-based enterprise to one dependent primarily on the use of the legal research databases of Westlaw, LexisNexis, Bloomberg Law, and the growing contingent of commercial and non-commercial online alternatives.\textsuperscript{66} The legal publishing industry has been the principal player in this transition period, earning historic high profit margins while putting forth evolving lines of online legal products and services.\textsuperscript{67}

The transition to online legal resources began some forty years ago. By the late 1970s, both West Publishing and Mead Data Central (the originator of LexisNexis) had introduced the first incarnations of electronic legal research terminals, constituting the birth of Westlaw and LexisNexis, as such.\textsuperscript{68} The last three decades have been marked by the steady advance of the various computer-assisted legal research products as put forth by the competing corporations (e.g., CD-ROM-based products, the Internet-based Westlaw and LexisNexis “classic,” WestlawNext and Lexis Advance, Bloomberg Law, etc.) and a corresponding decrease in the use—if not yet

\begin{footnotes}
\item[65] See Farmer, \textit{supra} note 3, at 401.
\item[67] See \textit{Globalisation}, supra note 64, at 244.
\item[68] See Arewa, \textit{supra} note 49, at 816; see also William G. Harrington, \textit{A Brief History of Computer-Assisted Legal Research}, 77 L. LIBR. J. 543, 544 (1985) (“By the early 1960s, there was much talk in the legal profession about the geometric rate of increase in [legal information] . . . . What about those huge, mysterious, and temperamental machines, computers? Could they somehow be programmed to do some of the work of legal research?”).
\end{footnotes}
the production—of print legal resources. The utilization of print legal materials certainly persists, but the most recent surveys (and the overwhelming evidence apparent to any casual observer) indicate that the vast majority of contemporary researchers increasingly rely on online legal research resources.

Online legal research has become the status quo in the industry, whereas print legal research has waned. The premier legal research databases of WestlawNext, Lexis Advance, and Bloomberg Law are not mere amalgamations of digitized legal resources. Such high-end legal databases contain a range of integrated products, services, and software tools, including legal content (supplemented by news, market, and industry analytical materials), proprietary search protocols (or search algorithms) paired with online indexing systems, and online citator services that now provide diversified functionality, among other features. Therefore, the major legal publishers, through these premier databases, now offer integrated platforms that constitute more than mere digital warehouses of traditional legal content.

In more recent years, alternatives to the high-end legal research databases also have emerged and taken root among practitioners. The first category of such resources consists of alternative legal research resources per se, such as the commercial (but low cost) legal databases of Loislaw and Fastcase. Also included in this category are freely available online legal resources such as the well-regarded Cornell Legal Information Institute and governmental websites like GPO FDsys. These free and low cost alternatives are steeply pared down versions of Westlaw and Lexis, in providing only unannotated primary sources, limited or no secondary resources, and rudimentary software services and tools (e.g., such resources

69. See LEGAL INFORMATION, supra note 51, at 3.
70. See Kristen E. Murray, Say Goodbye to the Books: Information Literacy As the New Legal Research Paradigm, 38 U. DAYTON L. REV. 117, 125 (2012) (“The 2011 ABA Legal Technology Survey shows that 98% of the respondents conduct legal research online, a number that has grown each year of the survey . . . . While print materials have not been abandoned altogether, it is clear that they are used less frequently”); Sanford N. Greenberg, Legal Research Training: Preparing Students for A Rapidly Changing Research Environment, 13 LEGAL WRITING: J. LEGAL WRITING INST. 241, 242 (2007).
71. See Murray, supra note 70, at 125.
72. See LEGAL INFORMATION, supra note 51, at 4; Chaos, supra note 46, at 197-99.
73. See Murray, supra note 70, at 125.
74. See Justiss, supra note 66, at 84-85.
75. See id. at 75-76.
76. See Arewa, supra note 49, at 836-38.
lack citator services and advanced search algorithms).\textsuperscript{77}

A second category consists of free, online repositories of legal periodicals. Notable examples are the Social Science Research Network (SSRN) and the BePress Law Review Commons, which collectively make available tens of thousands of law review articles.\textsuperscript{78} As the name suggests, SSRN houses scholarship not just in the legal field, but also across all disciplines encompassed by the social sciences; the greater Digital Commons performs an analogous function.\textsuperscript{79} Such online legal scholarship repositories have been a boon for practitioners and scholars alike because online repositories often contain cutting edge scholarship not yet available in the standard legal databases,\textsuperscript{80} and because law review articles posted in such repositories constitute freely available secondary resources for the practitioner.\textsuperscript{81}

A third category is an online catch-all: any free Internet resources not covered in the two categories above. Legal researchers increasingly rely on the Internet at large in conducting legal research (i.e., Internet resources that are not legal-specific) through search engines such as Google, user-generated resources like Wikipedia, and so on.\textsuperscript{82} Indeed, a recent ABA
survey indicates that thirty-seven percent of all contemporary attorneys now begin the legal research process with general Internet searching. Thus, in addition to the high-end legal databases, both commercial and non-commercial online resources have become standardized within the profession.

C. Print and Online Legal Research Compared

Much remains controversial in the rich and varied discourse pertaining to the transition from print to online legal research. However, a largely uncontroversial divergence between print and online legal research, as commonly understood, hinges not on the substance of the resources—nor even necessarily on the nature of the legal research process itself—but rather, on the functionality of the research tools, or finding aids, associated with the two mediums. This divergent functionality, alternatively

Integrating Free Internet Legal Resources into the Classroom, 17 BARRY L. REV. 221, 224 (2012).


85. See Kuh, supra note 84, at 241-42.

86. The term “functionality” is associated with online resources almost exclusively and can be defined as how a program or software tool (literally) functions or works for the user. See, e.g., A.H. Rajani, Davidson & Associates v. Jung: (Re)interpreting
termed the “mechanical difference” in accessing the competing mediums, is in essence the what and the how of locating legal information.

The implications of this divergence may make all the difference. An important aspect of the critical project involves determining which varieties of tools and functionality best succeed in allowing the researcher to produce novel research results, often in the form of new or synthesized progressive remedies. In fact, as will be discussed, leading critical commentators posit that traditional research methodologies for both print and online mediums fail to adequately spur genuine legal innovation, despite the supposed advantages of computer-assisted legal research in particular. Nevertheless, the basic mechanics of two mediums are covered here, in a preliminary sense, in order to provide a functional framework for the subsequent sections in this Article.

1. Print Resources

Although now in its twilight period, the vastly influential West Digest system is the preeminent tool for print case law research. The West classification system for the Digests, comprised entirely of editorially prepared case law headnotes, functions via a massive taxonomic scheme known as the West Topic and Key Number system. In this taxonomic scheme, West editors have divided all areas of American case law into over four hundred macro legal categories such as Criminal Law, Fraud, Property, etc. These macro categories constitute the “topics.” Then, within each of the topics, the West editors have further devised thousands of micro categories, or “key numbers,” which in turn cover sub-areas of law within each topic. For example, sub-areas within the Fraud topic, as selected by West, include False or Deceptive Advertising and Fraud on Government, each of which are assigned respective key numbers.

Access Controls, 21 BERKELEY TECH. L.J. 365, 374 (2006). But for convenience’s sake—and because the cross-usage seems etymologically sound—“functionality” here is used in the context of print resources as well (i.e., how a print resource mechanically functions for the researcher).

87. See Kuh, supra note 84, at 227-28.
88. Delgado & Stefancic, supra note 3, at 308-09.
89. See id.
90. See Hanson, supra note 84, at 569.
91. See id. at 568-69.
93. See id.
94. See id.
editors may further divide these key numbers into ever-more specific subcategories, assigning additional key numbers accordingly.

In terms of the overall editorial process, the discrete points of law from state and federal judicial opinions, as published in the West Reporters, are classified in the Topic and Key Number system and organized within the state, regional, federal, and national West Digests. After a judicial opinion is handed down, West editors extract what they deem to be the individual points of law from the case. These points of law become headnotes that oftentimes are restated in the editors’ own words. The guiding principle behind the system is that West assigns identical topics and key numbers to headnotes that express synonymous legal concepts, regardless of jurisdiction—this practice then allows researchers to locate all on-point mandatory and persuasive judicial authority for a specific issue. As West determines that the courts have adopted new legal concepts, so too are new topics and key numbers eventually generated for the system. At present, there are over one hundred thousand key numbers, each of which represents, in West’s estimation, a unique point of American case law.

As for the functionality of these print West systems, researchers locate opinions by subject matter via the classification scheme. To retrieve relevant cases, researchers rely on West Digest subject indexes, wherein West editors list key terms alphabetically and assign relevant topics and key numbers to those terms. Researchers then use the found topics and key numbers to peruse headnotes in the appropriate West Digests, and from Digest citations, researchers finally move to the relevant cases in the West Reporters.

The remaining print resources use more streamlined research tools. For statutes, regulations, and core secondary resources (e.g., legal encyclopedias, the American Law Reports, etc.), common starting points include either an editorially prepared subject index or tables of popular names and laws. Like with West Digest subject indexes, researchers move from on-point index selections to the corresponding statute or

95. See Bast & Pyle, supra note 84, at 289.
97. See Bast & Pyle, supra note 84, at 290.
98. See generally Key Number System, supra note 92, at 5-8.
100. See id. at 291.
secondary resources entry. A practitioner may rely upon annotations, cross-references, and Shepard’s citator tables—all of which, like the West Topic and Key Number system, are subject to the editorial discretion of commercial publishers.

A much-touted byproduct of print legal research is “browsing,” or the ability to somewhat serendipitously locate on-point materials through their proximate location to the researcher’s actual, found authority. An example of browsing occurs when a print researcher uses a subject index to locate a pertinent citation in a Digest, but by scanning the page, discovers a more suitable entry above or below. Browsing also comes into play when serendipitous discoveries are made through the use of tables of contents, section outlines, annotations, etc., or through locating related materials via a proximate arrangement of subject-specific monographs on shelves. Logically, a researcher’s success in locating relevant authority is constricted by the accuracy of the predicted keywords, but print browsing allows the researcher to control for—and in some ways, to transcend—the limitations of predicted key terms. Browsing is believed to be a more intuitive and effective strategy via print legal research as compared to online browsing equivalents.

2. Online Resources

Since the mid-1990s, Internet-based, commercial legal databases (e.g., Westlaw and Lexis) have captured the market. As discussed above, these high-end databases integrate legal content with niche analytical materials and sophisticated software services. However, the text of the

102. See id. at 279–80.
104. See Kuh, supra note 84, at 244; see also RONALD E. RICE ET AL., ACCESSING AND BROWSING INFORMATION AND COMMUNICATION 174 (2001) (“Browsing is a specific subject for research in the library literature and can be traced back to the Project Intrex in the mid-1960s, when experiments on browsing were suggested . . . to [explore how the technique may] foster unplanned discovery”).
105. See Kuh, supra note 84, at 244.
107. Cognitive Authority, supra note 84, at 1701-03; see also Lynn Foster & Bruce Kennedy, Technological Developments in Legal Research, 2 J. APP. PRAC. & PROCESS 275, 281-82 (2000) (“During the 1990s, the invention and development of the World Wide Web . . . became another electronic medium for legal publishing. LOIS, LEXIS, and Westlaw moved to the Web, accompanied by most print legal publishers.”).
108. See LEGAL INFORMATION, supra note 51, at 4. The average commercial subscription to premier legal databases (e.g., for small- to medium-sized firms) likely
core legal content on these databases has remained fundamentally unchanged.\textsuperscript{109} That is, despite the obvious differences in the medium of print and online legal products, the actual texts of core online resources are digital duplicates of the texts from print analyzers.\textsuperscript{110}

To qualify this assertion, a preliminary caveat can be added. To the extent to which the transition to online resources has altered the presumably shared epistemological state of legal researchers (i.e., how researchers intellectually process and thus “know” legal texts\textsuperscript{111}), this shift has been of little benefit, in terms of practical research outcomes, to critical law reform efforts.\textsuperscript{112} Indeed, as is discussed in Part II, the transition to the online medium in fact has likely degraded such a shared research state,\textsuperscript{113}

\textit{excludes} the newer varieties of niche analytical content like market and industry reports. Off-the-record comments by legal publishing representatives support this assertion—but confirmatory statistics are pointedly not made available; a concrete definition of an “average” commercial subscription to Westlaw or Lexis then is somewhat elusive. Telephone interview with Westlaw Reference Attorney, Thomson Reuters (Oct. 6, 2014); telephone interview with Lexis Advance Reference Attorney, Reed-Elsevier (Oct. 6, 2014); Ian Gallacher, \textit{Forty-Two: The Hitchhiker’s Guide to Teaching Legal Research to the Google Generation}, 39 AKRON L. REV. 151, 196 (2006) (“Costs for these services are difficult to determine because of the variety of pricing packages offered by legal information publishers.”); see also Justiss, supra note 66, at 83 (demonstrating that the 2008 financial crisis has incentivized firms to cut back on research resources and to otherwise pursue alternative resources).

109. Core legal content denotes the primary authority and the classic canon of secondary resources (e.g., legal encyclopedias, treatises, law review articles, etc.) as variously made available in average commercial subscriptions to the premier legal databases.

110. See Kuh, supra note 84, at 228 (“[T]he content of the law is largely unchanged, regardless of whether a researcher finds a hard copy of a case in a reporter volume after using a print digest or reviews it in electronic form on a computer screen after locating it using an electronic database search.”). But in terms of core legal content on legal databases (and in limited print resources, like the \textit{Federal Appendix}) one content addition is the availability of “unpublished as well as published cases. These unpublished cases were completely inaccessible in the past, when they were undisseminated and unindexed.” Foster & Kennedy, supra note 107, at 282–83 (emphasis added).

111. See id. at 229 (“Medium theory posits that the medium by which information is communicated . . . is not neutral. Instead, it significantly shapes how the conveyed information is understood.”). In broadly applying medium theory to legal resources, Kuh makes the following conclusion: “This Article has sought to demonstrate that the shift to electronic research is likely shaping the law in little-noticed, but nonetheless significant, ways . . . . Although we presently lack data to identify the precise contours of these impacts, this Article advocates that the academy and the profession recognize” such developments and further investigate them. Id.


113. See infra Part II(C) & (D). It is overly reductive to assume—as I do here—that
in that online researchers appear to be less capable and creative than their predecessors, to the obvious detriment of the law reform movement.

In returning to the textual duplication of print and online resource analogs, a few examples may better illustrate this phenomenon. A retrieved Westlaw decision from the Southeastern Reporter is textually indistinguishable from the decision published in the corresponding print volume. The same holds true for statutes, administrative regulations, municipal ordinances, or any other conceivable primary resource. The evolving canon of secondary resources, such as Restatements of the Law, practice books, treatises, legal encyclopedias, law review articles, and looseleafs have remained fundamentally unchanged in terms of core textual content following the transition to the online medium. Finally, the text of West headnotes and the West Topic and Key Number system is also duplicated and deployed in an enhanced fashion in the specific context of the WestlawNext database.

This seemingly self-evident observation is important, in a foundational sense, from the critical perspective, wherein the perceived benefits of online legal research are systematically unveiled as either largely inflated or completely erroneous. In sum, the core world of textual legal content available to the researcher on WestlawNext and Lexis Advance is not materially different from the legal content relied upon by practitioners in the past. With this foundation in place, the focus now can shift towards the more practical mechanics of online legal research.

Although rarely recognized as such, high-end legal databases in fact rely on most of the paradigmatic, commercial research tools associated with the print legal medium, albeit in enhanced, online formats, including the West Topic and Key Number system, annotations, editorially selected cross-references, and citator services.

As an online legal-conceptual organizational system, the West Topic and Key Number system continues to perform its age-old function on WestlawNext in classifying all points of case law. Online citator services (e.g., West’s KeyCite, Shepard’s on Lexis, etc.) also are integrated

a truly universalized print or online research “state” exists for all attorneys. This simplified characterization is used for expediency’s sake, but a future, more subtle unpacking is required in the literature.

114. See Kuh, supra note 84, at 228.
115. See Mart, supra note 96, at 229; Wheeler, supra note 22, at 368.
116. See infra Part II(C).
117. See Kuh, supra note 84, at 228.
118. See Mart, supra note 96, at 229; Wheeler, supra note 22, at 368; Wolf & Wishart, supra note 23, at 24-25.
119. See Mart, supra note 96, at 225-27.
on the commercial databases. Online citators still function to update the law, but while the print Shepard’s service operated exclusively to confirm the validity of judicial opinions, online citator systems now offer a far more diversified functionality in allowing researchers to locate a full array of citing primary and secondary authorities as selected by the publishers.

The definitive functionality driving online research is keyword searching. Although contemporary database researchers may make use of digitized subject indexes (i.e., for limited resources such as annotated codes), and although, as discussed below, online “browsing” is at least somewhat comparable to the print browsing experience, keywords are indeed the defining search functionality in the online medium. For a keyword search, the practitioner formulates words or phrases similar to the initial predicted key terms that are generated and thereafter applied to a subject index for print research. The researcher then types those terms into an online legal database, and the system’s search algorithm, in most instances, returns results based on a relevancy calculation. Factors considered in relevancy calculations traditionally include frequency and proximity of keywords in the searched documents, citation counts, and pertinent document metadata such as title, author, etc.

120. See Wolf & Wishart, supra note 23, at 24-25.
121. See id. at 25 (“Citation services perform a number of important tasks for a specified case, such as checking its subsequent history and finding later citing cases and secondary sources.”); Wheeler, supra note 22, at 372 (“KeyCite is designed to give you both analysis and links to all of the documents that cite to your original authority . . . . A recent study that compared results [from] KeyCite and Shepard’s revealed not only that the two systems yield different results, but also that both systems yield incomplete results.”).
122. See Hanson, supra note 84, at 564.
124. Delgado & Stefancic, supra note 3, at 310.
125. See Bast & Pyle, supra note 84, at 294-95; see, e.g., James F. Bauerle, Fighting Fire with Fire: Technology As Antidote to Excessive Subprime Lending, 124 BANKING L.J. 714, 722 (2007) (“[T]he credit reporting industry offers no publicly available resource that explains the credit scoring algorithms used to determine consumer scores. Nor is there any legal requirement that credit reporting agencies disclose their rating methodology or validate its accuracy before a neutral body.”); see also Eric Goldman, Deregulating Relevancy in Internet Trademark Law, 54 EMORY L.J. 507, 535 (2005) (“Regardless of which relevancy algorithms search engines use, their importance to [online searching] cannot be overstated. As a practical matter, relevancy algorithms determine the results that searchers see and investigate. Searchers do not generally look at search results beyond the first page or two . . . .”). Proprietary algorithms are demonstrably problematic in other contexts as well.
While the basic relevancy factors remain largely unchanged on Lexis Advance and Bloomberg Law, the WestSearch algorithm on WestlawNext deploys new factors. Significantly, the West Topic and Key Number system provides automated input on all WestlawNext relevancy calculations—and thus on all WestlawNext keyword searches. Similarly, the WestSearch algorithm receives input from the KeyCite citator service and select West secondary resources. Because the Topic and Key Number system in particular performed a more peripheral role in earlier incarnations of Westlaw databases, this is indeed an historic enhancement.

In detailing the key role that the West Topic and Key Number system and KeyCite now perform in WestSearch, Ronald Wheeler reports: “WestSearch really is revolutionary . . . I have not yet discovered an instance where relevant and important cases that share a particular topic and key number fail to display within a search result designed to retrieve the issue covered by said topic and key number.” If so desired, a researcher retains the ability to search within an interactive version of the Topic and Key Number system, or to use topics and key numbers in “found” cases to find cases similarly categorized. However, as Wheeler demonstrates, every search on WestlawNext now depends on the automated input of the West Topic and Key Number system, regardless of the choice—or even the knowledge—of the researcher.

Yet another groundbreaking addition in WestSearch relevancy calculations is the integration of crowdsourcing. In the legal database context, crowdsourcing essentially harnesses the collective expertise of West-selected users. Through crowdsourcing attributes, WestSearch analyzes the pertinent research patterns of commercial (i.e., non-academic) users deemed expert, and factors those patterns into relevancy calculations. For example, if WestSearch determines that commercial users view, save, folder, or print certain legal documents based on selected keywords, the expert user-targeted documents thereafter are ranked higher in the relevancy results when future researchers use synonymous

126. See Wheeler, supra note 22, at 368.
127. Id. at 360-61.
128. See Kuh, supra note 84, at 246-47.
129. Wheeler, supra note 22, at 368.
131. See Wheeler, supra note 22, at 369.
132. See id. at 365.
133. See id.
keywords. Similar to the inclusion of the West Topic and Key Number system, the end result of the crowdsourcing enhancement is that every search performed on WestlawNext now depends on the automated input of West-selected users.

Keyword searching may be further divided into two categories: (1) Boolean operator searching, and (2) natural language searching. As for Boolean operators (known alternatively as terms and connectors), the researcher generates a syntactical calculus that dictates to the system, at least to a degree, what results are to be returned. For example, the Boolean search “mountaintop removal” w/s “valley fill” asks the system to retrieve documents that contain the exact phrase “mountaintop removal” within the same sentence as “valley fill.” Natural language searching eschews a syntactical calculus, instead relying on plain, Google-like search phrases that are processed according to the search algorithm’s dictates. The following constitutes a natural language search: valley fill from mountain top removal operations.

Agency on the part of the researcher traditionally has been maximized through the command-like control of syntactical calculi. However, commentators are uncertain whether the newest generation of legal search algorithms, like WestSearch, fully obeys the commands of Boolean operators because “a WestlawNext Boolean search is still subject to WestSearch and its incorporation of key numbers.” Therefore, the once-clear distinction between Boolean operators and natural language has blurred due to the WestSearch algorithm enhancements.

D. Traditional Legal Research Process

The paradigmatic print legal research process can be said to proceed in

134. See id.
135. See Keefe, supra note 123, at 42.
138. Ian Gallacher, Cite Unseen: How Neutral Citation and America’s Law Schools Can Cure Our Strange Devotion to Bibliographical Orthodoxy and the Constriction of Open and Equal Access to the Law, 70 ALB. L. REV. 491, 511 (2007) ("Both LexisNexis and Westlaw have also introduced ‘natural language’ search engines that do not require the researcher to determine the relational context of the key terms.").
139. See Keefe, supra note 123, at 42.
140. Wheeler, supra note 22, at 370.
four steps. The first step in a fact-based legal research query is to examine the presented facts and to predict which legal categories likely control those facts, known historically as the search for the *ratio decidendi*, or the law determining the case.\(^{141}\) In the second step, a researcher formulates key terms based on the pertinent facts paired with the predicted, controlling legal categories.\(^{142}\) For the classic research process, an attorney unfamiliar with the predicted topical area then might apply the formulated key terms to (1) the West Topic and Key Number system, or (2) the commercial canon of secondary resources, so as to acquire background information on the topic.\(^{143}\) Alternatively, a researcher comfortable with the area may begin the process with known primary authorities such as specific statutory sections within an annotated code.\(^{144}\) Third, from these starting points, researchers may then modify the scope of the query through alternate keywords, annotations, cross-references, etc.\(^{145}\) Fourth, the researcher updates found authority via the Shepard’s citator service.\(^{146}\) Locating primary mandatory authority and primary persuasive authority, as required is commonly understood to be the terminal objective of the classic legal research process.

The transition to the online medium has precipitated a variation on the traditional research process. In theory, an online researcher may begin the research process by keyword searching within secondary resources, as available in each database. Through WestlawNext, a researcher even may perform a search within the online West Topic and Key Number system. However, studies indicate that online researchers tend to eschew these techniques, instead initiating the research process by performing keyword searches within targeted primary sources (e.g., a case law sub-database),\(^{147}\) or else by keyword searching across the entirety of a database’s resources simultaneously.\(^{148}\) Thereafter, online researchers negotiate the results

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141. See Barkan, *supra* note 3, at 622.
142. See id. at 623-24.
143. See id. at 624.
144. See id.
146. See Kuh, *supra* note 84, at 242.
pages (directing attention to case law, especially), before updating found primary authority via online citator services.

E. Legal Research Process Viewed as Normatively Neutral

Regardless of such variations, the legal research process has historically been viewed and taught as a normatively neutral enterprise. Legal research commonly is understood to be something of a positivistic science, devoid of any political or ideological influences. Tellingly, in such seminal legal research textbooks as *How to Find the Law* and *Fundamentals of Legal Research* (and in the newer generation of such textbooks) authors “present legal research as a search for ‘authority’ or the ‘the law’ that determines the result of a particular legal problem.” Legal research textbooks then “reflect a tendency to talk about law as preexisting and given . . . something that can be found.”

The dominant, historical view is that legal research is mechanical. Each legal query is perceived as an input that can be entered into commercial legal resources via predicted keywords. Thereafter, the legal research resources return an output—the accompanying “one right answer” to the query—in the form of binding precedent, the “correct” *ratio decidendi.* When Arthur Langdell spoke of the library as a laboratory of law, this then was his meaning: that legal research is an objective science wherein correct, binding law is *discovered.*

151. See id.
152. *Id.* (quoting J. MYRON JACOBSTEIN & R. MERSKY, *FUNDAMENTALS OF LEGAL RESEARCH* 9 (1987)); AMY E. SLOAN, *BASIC LEGAL RESEARCH: TOOLS AND STRATEGIES* 303-05 (5th ed., 2009); Peggy Copper Davis, *Casebooks, Learning Theory, and the Need to Manage Uncertainty, in LEGAL EDUCATION IN THE DIGITAL AGE* 230, 239 (Edward Rubin ed., 2012) (“Few among us speak clearly or coherently to our students about indeterminacy, and many of us postpone the discussion until students have been entrapped by illusions of certainty.”). But see Sarah Valentine, *Leveraging Legal Research, in VULNERABLE POPULATIONS AND TRANSFORMATIVE LAW TEACHING: A CRITICAL READER* 145, 158 (Soc’y of Am. Law Teachers & Golden Gate Univ. Sen. of Law eds., 2011) (“ Restructuring legal research around a public interest framework allows schools to leverage an overlooked course into one that actively nourishes students’ social justice aspirations during the first year of law school.”).
154. David Wolitz, *Indeterminacy, Value Pluralism, and Tragic Cases,* 62 BUFF. L. REV. 529, 578 (2014) (“Those who deny legal indeterminacy, such as Dworkin, usually argue that because the law rationally determines one right answer, the judge’s duty is to reason to that uniquely correct answer.”).
III. Critical Legal Research

A. Critical Legal Research Theory

The very notion of a critical approach to the legal research process is grounded in the decades-old school—or collective movement—known as critical legal theory. As opposed to a discrete framework, contemporary critical legal theory perhaps is best defined as a diverse and inclusive canon of “literature or ideas,” including such schools as feminist legal theory, critical race theory, critical race feminism, LatCrit, queer legal theory, disability theory, law and socioeconomics, and critical examinations of environmental law—the theoretical underpinnings of which were influenced by such foundational movements as legal realism, neo-Marxism, post-structuralism, and deconstruction. As a unifying force, modern critical legal theory arguably offers a “radical, left-oriented critique of contemporary law and jurisprudence,” based on the normative premise that “social class stratification and hierarchical power distributions, as they exist in our society, are inherently unjust.” Critical legal theory tends to have a liberatory agenda; thus, the overarching aim is to pursue “human

155. Id. at 578.

156. RICHARD W. BAUMAN, IDEOLOGY AND COMMUNITY IN THE FIRST WAVE OF CRITICAL LEGAL STUDIES 1751 (2002).


159. Barkan, supra note 3, at 618.

160. Rubinson, supra note 157, at 947.
emancipation’ in circumstances of domination and oppression,” and to generally promote democratic and egalitarian principles.

1. Doctrinal Incoherency and Indeterminacy

The first wave of critical legal theorists introduced a range of interrelated notions that sparked the genesis of critical work on the institution of legal research specifically. The following are principles associated with the pioneering literature of the Critical Legal Studies (CLS) movement per se (active in the 1970s and 1980s).

First, legal doctrine is “incoherent and indeterminate,” as opposed to being formalistic, or a science, because any given body of precedent—no matter how comprehensive—is incapable of covering all conceivable fact situations. More specifically, an application of the tenets of deconstruction to legal texts yields the conclusion that all doctrine is open to innumerable interpretations, and that thus no discrete body of precedent can constrain judicial decisions.

Second, legal reasoning largely is a myth. There exists no neutral mode of rationality through which “correct” law is discovered and applied through stare decisis. Instead, the enterprise is driven predominantly by political and ideological considerations—which largely reflect the dominant liberal-capitalist worldview.

Third, and finally, all categorizations of law are inherently subjective. Moreover, like the myth of legal reasoning, such categorizations serve the dominant, homogenous interests of society at the expense of subordinated groups. Taken as a whole then, these three principles demonstrate “the


162. See Barkan, supra note 3, at 618.

163. See id. But see Construction, supra note 157, at 262 (“What is often missing from CLS works is the acknowledgment that our experiences of the same circumstances may be very, very different . . . . CLS as a critique of the legal system—without addressing the needs of the multiply diverse disempowered, without providing concrete, practical solutions—was, like Marxism, not sufficient.”).

164. Id. at 626.

165. See id. at 627-28.

166. See id. at 629.

167. See id. at 629-31; Jason E. Whitehead, The Labor Exemption from Antitrust As an Ideological Antinomy, 32 Willamette L. Rev. 881, 915 (1996) (“[T]he flaw with legal reasoning is that of a very specific historical, economic, and social system: capitalism and the liberal individualist ideology that supports it.”).
need for radical change” in the mold of progressive thought.  

In more recent years, such early insights proffered by the CLS movement have been qualified somewhat and refined. Mark Tushnet explores such shifts in Critical Legal Theory (without Modifiers) in the United States: “claims that all results were underdetermined were replaced by [claims] that many results were underdetermined, or that results in many interesting cases were, or . . . that enough results were underdetermined to matter.” Thus, although subsequently refined, the theoretical progeny of the core CLS tenets remain vital in the contemporary critical discourse. As Tushnet writes, “[o]ne or another of these revised versions of the indeterminacy argument is, I think, accepted by nearly every serious legal scholar in the United States.”

Contemporary critical scholars also continue to maintain that “[t]hrough indeterminacy, the legal system allows powerful interests to dominate outcomes, while retaining the appearance of neutrality and autonomy.”

As Charles Barkan argues persuasively in the seminal essay Deconstructing Legal Research, the foundational insights proffered by the CLS movement in addition to subsequent discourse refinements are innately applicable to—and in fact, are inseparable from—the longstanding institution of the American legal research process. As Barkan elucidates:

A CLS analysis of legal research might start with the impression that there is something fundamentally wrong with the way modern legal thinking responds to social problems, and that the traditional methods and materials of legal research contribute to that unsatisfactory state of affairs. In CLS critiques of legal doctrine, legal reasoning, and legal categories, the relationships become more clear.

The unreconstructed legal research process demands that the attorney discover the discrete precedent controlling a given fact pattern. For an issue of first impression, the researcher must discover the ratio decidendi, which the judge then applies formally to fill a gap in the common law.

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168. Rubinson, supra note 157, at 948.
170. Id.
172. See Barkan, supra note 3, at 618.
173. Id. at 625.
174. See id. at 622; Ronald K.L. Collins & David M. Skover, Paratexts, 44 Stan. L.
However, critical principles reveal the sometimes impossibility, and indeed very often the preposterousness, of this conception. For the legal researcher, there might be no objective ratio decidendi to discover—as indeterminacy dictates that novel fact patterns potentially could be “controlled” by a veritable sea of competing (and oftentimes conflicting) precedent. In making such selections, “a wide variety of interpretations, distinctions, and justifications are available,” in that judges and researchers are potentially free to choose among a plethora of competing arguments, authorities, and so on. Ultimately then, law indeed is politics by another name, and the notion of neutral, objective doctrine, devoid of the subjective ideological preferences of judges, is mere fantasy, albeit one in service to society’s dominant interests. Therefore, “the search for . . . the rule of the case, leads nowhere.”

2. Legal Categories

Like the critical analyses pertaining to indeterminacy and the myth of legal reasoning, the problematic nature of legal categorizations is deeply enmeshed in the institution of legal research. This insight in fact persists as the most penetrating critique of both print and online research mediums. For this reason, an extended treatment of legal categorizations is provided here.

Due to the indeterminacy of legal doctrine, categorizations of law are necessarily subjective social constructs—as opposed to objective renderings of doctrinal truth. One might wonder, how could a categorization scheme accurately represent legal doctrine, when the critical analysis demonstrates that doctrine is, at least partially, indeterminate? REV. 509, 533 (1992) (“[T]he very notions of ‘binding precedent’ and ‘supremacy of law’ are premised on the extraction of a ‘rule’ from a past account of legal reality (i.e., a past account of legally recognized facts and reasons) in order to control a future account [sic] of legal reality.”); Barkan, supra note 3, at 628 (stating that the theory of deconstruction conflicts with the notion that legal research is a search for a preexisting, findable law as expressed in the writings of courts, legislatures, or agencies. If the meanings of legal texts are created as much by researchers as by the institutions that produce them, judicial opinions, statutes, legislative history materials, regulations, and other resources [may be] indeterminate).

175. See Barkan, supra note 3, at 629; Triple Helix Dilemma, supra note 3, at 216.
176. Barkan, supra note 3, at 626.
177. See id. at 630-32.
178. Id. at 630.
179. See id. at 631.
180. See id.; Delgado & Stefancic, supra note 3, at 318; Wheeler, supra note 22, at 368.
181. Barkan, supra note 3, at 626.
As succinctly stated by Duncan Kennedy, “all such schemes are lies,” and in fact the “very existence of historically legitimated doctrinal categories gives the law student, the teacher, and the practitioner a false sense of the orderliness of legal thought,” effectively masking law’s indeterminacy.  

What is more, legal categorization schemes, through their political, historical, and economic underpinnings, reflect the normativity of the societal status quo. Legal categories “are created and perpetuated by society’s dominant interests,” in that white, patriarchal, heteronormative, ableist, ageist, anthropocentric, atomistic-capitalist, etc. values are reflected—and advanced—through such schemes. Therefore, “[legal] classification systems can also be biased or insensitive because they may reflect Eurocentric or other dominant ideologies and values and ignore other cultures, races, genders, etc.,” and “[t]he end result is that standardized categories may ultimately affect a client’s justice.”

Jill Anne Farmer writes more on this point from a leftist, socioeconomic perspective in *A Poststructuralist Analysis of the Legal Research Process*. So states Farmer: “Because meaning is socially constructed, the groups that control the economic and cultural apparatus of a given society largely determine which meanings are considered most important. Moreover, the cultural process is shaped increasingly by fewer transnational corporations,” wherein “profit and ideological conformity” are the controlling interests. To be sure, the legal publishing industry exemplifies this phenomenon, as there exists a “unique concentration of publishing in the hands of only a few companies.”

Any doctrinal categorization system then is informed by and arguably is a principal player in, our contemporary late capitalist mode. Rather than constituting objective doctrinal truth, legal categories instead embody the

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182. *Id.* at 631 (quoting Duncan Kennedy, *The Structure of Blackstone’s Commentaries*, 28 BUFF. L. REV. 209, 215 (1979)).

183. *Id.* at 632.


185. *Id.*


187. *Id.*

188. *Id.* at 397.

189. *See* Stephen A. Smith, *Taking Law Seriously*, 50 U. TORONTO L.J. 241, 251-52 (2000) (“[A] functionalist explanation of law’s organizational claims is the argument that the traditional legal categories are an inevitable product of the relations of production in a capitalist society; more specifically, that the traditional categories exist to fulfill the necessary function of obscuring the exploitative nature of capitalism behind an elegant neutral façade.”).
subjective values characteristic of the dominant groups, interests, and systems of modern Westernism. 190

The West Topic and Key Number system, as the seminal legal categorization scheme, is the supreme exemplar of such normative biases. 191 Commentators have agreed universally that West categories evolve slowly: “The topic ‘Labor’ received a heading in the 1950s, and until [the 1980s] West classified ‘Workers’ Compensation’ under ‘Master and Servant’ law.” 192 Delgado and Stefancic also have identified numerous instances of problematic race- and sex-based categorizations in the West system. 193 Finally, one need only skim the West Topic and Key Number outline, as it currently exists, to discern its conservative ideological bias—e.g., that West has classified numerous same-sex marriage points of law under the topic “Husband and Wife” is no small irony. 194 Therefore, through such doctrinal categorizations, the West Topic and Key Number system indeed perpetuates “dominant ideologies and values” while subordinating “other cultures, races, genders, etc.” 195

But what of the practical mechanics of West’s influence vis-à-vis doctrinal categories—and thus on research outcomes? A researcher navigating the print West Digest system relies entirely on the Topic and Key Number scheme. 196 Predicted keywords are matched to West’s subject index terms, and then “the digests, along with their topic and key numbers, inexorably guide and influence the researcher’s identification of theories, principles, and cases.” 197

The argument, however, is not that West doctrinal categories expressly “control, or cause change in, the law.” 198 Through more insidious means, West legal categories “reinforce and reify dominant ideologies, can narrow perspectives, and can make contingent results seem inevitable.” 199 For

190. Haigh, supra note 184, at 261.
193. See, e.g., id. at 217-20.
195. Haigh, supra note 184, at 261.
196. See infra Part I(C)(1).
197. Kuh, supra note 84, at 244.
199. Id.; see also Smith, supra note 189, at 251 (“But rather than supposing that legal actors consciously misrepresent their motives, a functionalist explanation supposes that legal actors are motivated and controlled by external forces. These external forces are unacknowledged; indeed, the legal actors typically are unaware of
instance, when attempting to classify novel fact situations, the range of legal-doctrinal possibilities available to the researcher necessarily is constricted by the established boundaries of West’s doctrinal categories— when the fact situation instead may call for innovation. As stated elegantly by Delgado and Stefancic: “[C]ategories contained in current indexing systems are like eyeglasses we have worn a long time. They enable us to see better, but lull us into thinking our vision is perfect and that there may not be a still better pair.”

West’s influence vis-à-vis the Topic and Key Number system unsurprisingly has been characterized as a “virtual conceptual tyranny over access.” Delgado and Stefancic liken the system to that of DNA, as West’s categories “enable the current system to replicate itself endlessly, easily, and painlessly. Their categories mirror precedent and existing law; they both facilitate traditional legal thought and constrain novel approaches to the law.” In conducting research directly through this subjective set of West-created principles and concepts then, the West Topic and Key Number system serves to perpetuate existing legal thought.

B. Foundations of the Critical Research Process

To achieve genuine legal innovation, the sine qua non of the critical researcher is to “break free” of traditional doctrinal categories embodied in the West Topic and Key Number system and elsewhere. In Why Do We Tell the Same Stories: Critical Librarianship, Law Reform, and Triple Helix Dilemma, Delgado and Stefancic put forth the seminal articulation of how, in a macro sense, such progressive innovation is achieved.

Categories in the principal legal indexing systems are explicit. . . . If we examine them, we will see an outline of the structure of traditional legal thought. That structure will reveal what previous courts and writers have recognized and what indexers have faithfully recorded. By inspecting this record, we may gain a glimpse of the very conceptual framework we have been wielding in scrutinizing and interpreting our societal order. We may then inquire whether that framework is the only, or the best means of doing so. We may turn that system on its side and ask what is

201. *Farmer*, supra note 3, at 399.
203. *Id.* at 217.
With more force, Delgado and Stefancic later describe these sweeping methodologies as “reinventing, modifying, flipping, and radically transforming legal doctrines and theories imaginatively.”

This is a tall order, for “[g]oing beyond standard legal categories” is a daunting proposition, “even when we are going for moderate, incremental reform.” A reformist-minded attorney then must take nothing as given—law’s potential indeterminacy, after all, demands such an approach: she must interrogate traditional legal categories, as embodied in the West system and elsewhere, and determine how they might best be synthesized, augmented, or otherwise transcended to effect progressive doctrinal change.

Delgado and Stefancic offer a concrete example of such a transformative research approach in their early work. At that time, West provided a Topic and Key Number category for race-based employment discrimination and a separate category for sex-based discrimination—but not a third category based on a synthesized race- and sex-based claim. As a result, when “Black women wish[ed] to sue for job discrimination directed against them as a Black woman,” researchers operating within the West Topic and Key Number classifications were limited to pursuing causes of action based on the existing race- and sex-based doctrinal categories. These existing West categories were insufficient. Claims brought through each category proved unsuccessful if the employer evinced that it had “a satisfactory record for hiring and promoting women generally (including white women) and similarly for hiring Blacks (including Black men).”

To transcend these categories, attorneys articulated a novel cause of action that synthesized the two existing categories of race- and sex-based discrimination. Such a synthesized category was inspired in part by intersectionality, a then-new critical notion. Thus, through the help of

204. Id. at 223-24.
205. Delgado & Stefancic, supra note 3, at 328.
206. Triple Helix Dilemma, supra note 3, at 225.
207. See id. at 222–24.
208. See id. at 219.
209. Id.
210. Id. at 220.
211. Intersectionality involves the proposition that “race and sex are not ‘mutually exclusive categories of experience and analysis.’” Alyssa A. DiRusso, Testacy and Intestacy: The Dynamics of Wills and Demographic Status, 23 QUINNIPIAC PROB. L.J. 36, 72 (2009) (quoting Kimberlè Crenshaw, Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory,
critical discourse, attorneys turned the West system “on its side and ask[ed] what is missing,” in interrogating—and then in transcending—the mutually exclusive race- and sex-based categories that existed in the West system.\textsuperscript{212}

Delgado and Stafancic put forth a number of additional examples to illustrate the potentially transformative power of the critical approach. The practice of “imagining new worlds” is identified as a crucial element of the enterprise.\textsuperscript{213}

Many new legal ideas come about . . . by turning a thought structure around and asking a novel question. In race relations law, the duty to make reparations to Latinos for stolen lands or blacks because of slavery appeared frustrated by the simple passage of time. But what if one imagined a world where the duty to make good for old injuries increased, rather than decreased, over time because of interest-compounding; or one where mixed causation and indeterminacy in the plaintiff class was handled by prorating harms, not declaring them noncompensable? What if one imagined a world where outsiders did not need to “cover” or conceal the ground of their differentness, as many gays, lesbians, and light-skinned minorities do?\textsuperscript{214}

Such examples capture the very essence of the critical research project. Through creatively engaging with existing doctrinal categories and theories, attorneys indeed may imagine new worlds—and then endeavor to make such worlds a reality.

\textbf{C. Critique of Online Legal Research}

Since the dawn of the computer-assisted legal research era, commentators have posited that electronic searching would free researchers from age-old restraints, resulting in doctrinal creativity and perhaps, in law reform.\textsuperscript{215} This widespread belief is based on such broad assertions that


\textsuperscript{212} \textit{Triple Helix Dilemma}, supra note 3, at 224.

\textsuperscript{213} Delgado & Stefancic, supra note 3, at 322.

\textsuperscript{214} Id.

\textsuperscript{215} \textit{See, e.g., ETHAN KATSH, LAW IN A DIGITAL WORLD} 70-73 (1995); Barbara Bintliff, \textit{From Creativity to Computerese: Thinking Like a Lawyer in the Computer
Computerized legal research is “more flexible than the traditional kind, that it is deeper and more comprehensive, and that it is more creative than what came before.” From the law reform perspective, the transition to computerized legal research has been heralded as a veritable paradigm shift that may go so far as to “render the law more humane,” by “burst[ing] the bonds of conservatism and generat[ing] a dynamic that will breathe new life into the common law.” Computerized legal research then has been commonly characterized as a transformative technology that has the potential to effect progressive law reform.

The rationale for this belief stems from the mechanical differences in the two mediums’ search functionality. A print researcher must make conscious, intensive use of the West Topic and Key Number system: West explicitly channels the researcher’s efforts. But online legal research instead is driven by keyword search functionality, wherein the researcher supposedly “may frame any type of search query” through the selection and combination of words and phrases. In other words, through keyword searching on databases, the researcher need not consciously engage with the West Topic and Key Number system—a researcher may simply type terms, without conscious reference to West categories. Because the researcher supposedly exercises great agency over the results retrieved vis-à-vis full-text keyword searching in databases, the argument goes that online research then “free[s] [the researcher] from the filters of categorical reasoning.”

Unfortunately, for an array of interconnected reasons, computerized legal research has failed utterly to achieve such ends. After more than three decades, it has catalyzed neither doctrinal creativity nor law reform.


216. Delgado & Stefancic, supra note 3, at 315.
217. Id. at 317.
218. Hanson, supra note 84, at 580.
219. See infra Part I(C)(1).
220. Delgado & Stefancic, supra note 3, at 316.
221. See Kuh, supra note 84, at 246-47. But see Delgado & Stefancic, supra note 3, at 318-19 (explaining that regardless of the resource used, West Topic and Key Number categories are inscribed in our minds due to such factors as standardized American legal education).
222. Delgado & Stefancic, supra note 3, at 316.
223. See id. at 317-26.
224. See id. at 325-28.
1. Search Algorithms

A fundamental flaw in the assertion that online research transcends legal categories is that, as covered above, legal categories are now critical components of legal database search algorithms: WestlawNext is the epicenter of such search algorithm innovation. Because every search performed on WestlawNext now requires automated input from the West Topic and Key Number system (i.e., as the system is embedded in the WestSearch algorithm), the age-old “conceptual tyranny” of the West categorizing scheme has reemerged—albeit in a more insidious form. While once the “most obvious difference between print indexing and CALR indexing is that the latter is constructed by the researcher rather than by the publisher,” this no longer holds true. West’s doctrinal categorizations now directly influence every search performed on the database.

This recent melding of legal categorization systems with database search algorithms was not an unforeseen development. As Delgado wrote more than two decades go: “Ironically, a number of observers suggest adding subject indexing to the LEXIS and WESTLAW systems, thus interposing another human being’s subjective judgment between researcher and text—the very thing that computer-assisted legal research was designed to replace.” In a more general sense, Robert Berring too warned against this eventuality:

\[\text{[E]ach step in the research process that is carried out automatically by the front end system, is a step taken away from the purview of the researcher. Each decision that is built into the system makes the human who is doing the search one level further removed from the process. If each user of information was aware of these steps, if each user understood what was being done for her and could monitor results with a skeptical eye, the danger would not be so great. But the whole point of these systems is to work automatically. . . . Most researchers do not understand how to critically evaluate search results. The emphasis from the vendors of high-end information will be to lessen that critical evaluation, not enhance it.}\]

\[\text{\footnotesize 225. See Wheeler, supra note 22, at 368.}\]
\[\text{\footnotesize 226. See id. at 370.}\]
\[\text{\footnotesize 227. Farmer, supra note 3, at 398.}\]
\[\text{\footnotesize 228. Bast & Pyle, supra note 84, at 292.}\]
\[\text{\footnotesize 229. See Wheeler, supra note 22, at 370.}\]
\[\text{\footnotesize 230. Triple Helix Dilemma, supra note 3, at 221-22.}\]
\[\text{\footnotesize 231. Chaos, supra note 46, at 210.}\]
West’s doctrinal categories, as automatically—and thus invisibly—applied to each database search is perhaps a more grievous state of affairs than West’s formerly explicit channeling influence. In the print medium, researchers at least had the benefit of better seeing West’s modes of constraint. Therefore, through now more insidious, but perhaps no less potent means, West’s categories embedded in the WestSearch algorithm continue to “enable the current system to replicate itself endlessly, easily, painlessly.”

Crowdsourcing too is a deeply troubling enhancement of WestSearch. By applying the research patterns of editorially selected expert users to each search, crowdsourcing, like the West Topic and Key Number system, is an agent of homogenization for research outcomes. Ron Wheeler already has taken issue with West’s reliance on crowdsourcing. As Wheeler writes, reformist-minded attorneys often are “looking to find the stone left unturned, the less popular result,” and for these “creative thinkers [who] write about changing the law. . . . The desired results for these sorts of research inquiries may not fall within the collection of results considered useful by the masses.”

Crowdsourcing then likely inhibits law reform.

2. Citation Systems

The “remarkable sameness” of the law is also perpetuated through other features of commercial legal databases. Like the West Topic and Key Number system, “citation systems are based upon the subjective judgments of human beings.” This inherent bias applies to the historic citator function of classifying the law’s validity, but also to the newer citator functionality of cross-referencing selected, citing analytical materials.

On this latter point, publishers always have displayed “policies of referencing and other publications,” thus perpetuating the “cumulative, self-perpetuating” nature of commercial research resources. That the

232. See Kuh, supra note 84, at 243. But see Construction, supra note 157, at 265 (noting that there are “recurrent, and often inadvertent, examples of ableism is the very language of critical discourse . . . ‘visible’ and ‘invisible’ are used as metaphors [prominently in OutCrit literature] . . . . Notice how these metaphors privilege seeing.”).

235. Id. at 366.
236. Triple Helix Dilemma, supra note 3, at 207.
237. Callister, supra note 103, at 472.
238. Id.
239. See Wolf & Wishart, supra note 23, at 25.
240. Farmer, supra note 3, at 401.
KeyCite citator also is embedded in WestSearch only magnifies KeyCite’s channeling influence.  In a more general sense, “patterns of citation inclusion, omission, and emphasis” in legal databases have been of benefit to society’s dominant interests. The legal field has an overall high valuation of citations (one might say, an obsessive fixation), and the consequences of this phenomenon are far reaching. But in the legal database context, a concrete example is telling: documents with higher citation counts are deemed more relevant by search algorithms. Likewise, in the crowdsourcing context, documents with more user “views” are deemed more relevant. And radical, or otherwise marginalized scholars, whom in some circumstances have demonstrably lower citation counts or views (i.e., as compared to other scholars within the same discourse), therefore produce articles ranked less relevant by search algorithms. The end result is that such articles with lower relevancy rankings are less likely to be discovered by researchers.

3. Free Internet Searching

Non-commercial Internet resources used by attorneys similarly exhibit biases. For example, in the crowdsourcing context, the notion that a system should “capitalize[] on the wisdom of its users” has long been applied in the preeminent, free Internet resources, “including wiki creation (e.g., Wikipedia) and web searching (e.g., Google).” Although commonly misperceived as something of a normatively neutral modern wonder, on search engines such as Google, “popular, mainstream and middle of the road ideas will almost certainly find a voice; one that is likely to be very loud. However, the unpopular, unique, and minority points of view will not.” Additionally, “search engines wishing to achieve greatest

241. See Wheeler, supra note 22, at 368.
243. See id.
244. Telephone interview with Westlaw Reference Attorney, Thomson Reuters (Oct. 1, 2014) (indicating that the number of citation counts for law review articles on WestlawNext is one factor, among many, in relevancy calculations via WestSearch).
245. See Farmer, supra note 3, at 401; Wheeler, supra note 22, at 366 (“WestlawNext’s search algorithm may rank seldom-viewed documents lower than frequently viewed documents, which may require the user to scroll down significantly to locate such items. Perhaps these esoteric items will not display at all.”).
popularity... tend to cater to majority interests'. According to Google’s founders, this bias was by design.248 Like commercial legal databases, free Internet resources then also exhibit a subjectivity bias and channel the efforts of legal researchers accordingly.

4. Fact-Based Searching

Such are the flaws of leading, contemporary online legal research resources; but even prior to the advent of WestSearch and Google, computerized legal research yielded little in the way of progressive law reform.249 What accounts for this failing? For one, the shift to computerized legal research, with its dependence on keyword searching, resulted in attorneys transitioning from legal concept-based searching to fact-based searching.250

An attorney researching online typically does a word search, looking for cases containing the same facts. If the search retrieves a number of cases with similar facts, the attorney may be satisfied with the outcome. However, a search that discovers factually similar cases does not also offer a theory of law as its natural result. Additional work and creative energy on the part of the researcher are required to formulate a legal theory... The attorney may not consider the importance of the context of the facts or the role that fairness or justice might play in making a persuasive case for the client. The attorney may remain at the factual level, failing to consider legal concepts or public policy arguments.251

Of course, before an attorney can de- and reconstruct legal categories, the supposedly controlling doctrinal categories must first be discovered. Rather than interrogating and critically reconstructing existing legal categories, online keyword searching instead encourages researchers to drown “in a sea of facts.”252

Online legal research also inhibits browsing, and without browsing, the researcher exhibits a “tendency to remain at a factual-level analysis.”253

248. Id. (quoting Lucas D. Introna & Helen Nissenbaum, Shaping the Web: Why the Politics of Search Engines Matters, 16.3 THE INFO. SOC’Y, 169, 176 (2000)); see also Delgado & Stefancic, supra note 3, at 324 (“Most material on the Internet comes arranged in order of frequency of use... This ‘popularity contest’ approach to listing information builds in a structural bias in favor of commonplace items that have found wide use. Heretical or new ideas [can be more difficult to locate].”).
249. See Delgado & Stefancic, supra note 3, at 325-28.
252. Delgado & Stefancic, supra note 3, at 319.
253. Bast & Pyle, supra note 84, at 298; see also Delgado & Stefancic, supra note
The print medium traditionally provides a rich, expansive environment in which to engage with legal texts imaginatively. For instance, a print researcher may swiftly and tactilely flip through multiple pages, intuitively switching from text, to section outline, to new volume, etc. Also, a print researcher using print indexes and West Digests is likely to at least glance at adjacent, tangential categories on the page. These strategies are important for law reform because “browsing encourages the development of analogical or metaphorical reasoning and legal arguments,” allowing the researcher to “stretch existing theories to cover new factual settings.”

In short, print browsing facilitates law reform as it provides ample opportunities to creatively engage with legal concepts.

Online legal research, on the other hand, traditionally has restricted browsing. Computers and legal database interfaces “generally only allow[] a small amount of information to be accessible on each screen,” thus limiting the online researcher’s browsing environment. Stated otherwise, tangential, browse-worthy data are scarce on commercial legal databases, reducing the potential for serendipitous discoveries. For example, online cases are retrieved predominantly via fact-based keywords—not through lists of browsable legal categories on West Topic and Key Number subject index pages. Moreover, locating and using browse-friendly tools such as digitized subject indexes and tables of contents remains a difficult prospect due to interface limitations. The online medium then has historically constricted browsing, and thus the “development of analogical or metaphorical reasoning” that law reform often requires.

5. West’s Hegemony

The issues discussed thus far involve the problematic aspects of online legal research resources per se. However, perhaps the most devastating—and enduring—critical insight is that, regardless of the resource utilized,
West’s legal categories remain “inscribed in our minds” due to West’s century-long hegemony.262

It is perhaps no longer common knowledge that the West Topic and Key Number system formed the very architecture of the Langdellian law school curriculum. As is readily apparent from the West system outline: “The first-year courses Langdell established at the Harvard Law School track the digest classification scheme. The major digest classifications—property, contracts, torts, and crimes—are the subject matter of introductory law school courses. Individual digest topics are the subject matter of other law school courses.”263 Understanding this, one can hardly overstate the pervasive influence of the West Topic and Key Number system on American legal culture.264 In learning and understanding our law—in “knowing” our law—one quite literally internalizes the dictates of the West commercial system.265

The direct research implications of the West system’s influence on the American law school curriculum are clear. Contemporary researchers seldom make use of West’s bound Digest volumes—but West’s channeling effect on research outcomes extends far beyond the printed page.

The very categorical structure that limited paper-and-pencil searching, building in a bias for the status quo, appears in a new form—the straitjacket of conventional categories now limits the questions one may ask the computer and the searches one may devise. The terms and concepts—familiar from the old digest and index categories and reinforced by disciplinary habits, bar examination requirements, and the legal curriculum—that formerly steered searchers in predictable directions reappear in more insidious form. Now inscribed in our minds, they limit the questions a researcher can ask.266

The “conceptual tyranny” of the West system extends to any resources—print or online, commercial or non-commercial—a Langdellian-trained attorney might utilize.267

When formulating a keyword search on Fastcase, the Cornell Legal Information Institute, Google, etc., the researcher’s words and phrases do not materialize spontaneously from a tabula rasa-like legal

262. Id. at 318.
263. Bast & Pyle, supra note 84, at 287.
264. Id.
265. Delgado & Stefancic, supra note 3, at 310.
266. Id. at 318.
267. Farmer, supra note 3, at 398.
consciousness. As Berring writes: “those who use the system tend to conceptualize in terms of the system and, as a system matures, it becomes authoritative, the classification system simply describes the universe. Researchers mature using it, organize their thoughts around it, and it then defines the world of ‘thinkable thoughts.’” For the American attorney, the “world of thinkable thoughts” is governed almost exclusively by West.

D. Stalled Law Reform Movement

The inherent flaws of the online medium, while problematic for a researcher in any circumstance, are in fact exceptionally exacerbated for the attorney pursuing law reform initiatives. Online search methodologies are “least useful where one needs them most—when trying to take the measure of a new legal problem or issue.”

The individual elements required for a new theory may “lie somewhere in a database.” However, a legal database is incapable of perceiving social injustices and transforming legal categories accordingly. Our machines are smart, but not that smart: “[t]he decision to put [legal concepts] together in a novel way must come from a human researcher.”

268. See Haigh, supra note 184, at 261 (“Many researchers will likely adopt standard legal forms of classification learned through textbooks or from lawyers with certain ideas about the organization and structure of law.”).
269. Delgado & Stefancic, supra note 3, at 318.
271. Id; see also Delgado & Stefancic, supra note 3, at 309-10.
272. See Delgado & Stefancic, supra note 3, at 18.
273. Id.
274. Id. at 321.
275. Id. To disrupt notions of human exceptionalism, we also might begin to think seriously about how law reform—as an ontological practice—might be approached from non-human modes of being. See, e.g., Maneesha Deckha, Property on the Borderline: A Comparative Analysis of the Legal Status of Animals in Canada and the United States, 20 CARDOZO J. INT’L & COMP. L. 313, 316 (2012) (“[A]nimal-friendly’ [law reform efforts to date] are still anthropocentric, as they are often animated by the value placed on human relationships with animals (and thus focus on humans), rather than the value of animals themselves. The logic of human domination and hierarchy is not questioned in these cases and statutes.”). Obviously, this is a daunting proposition. For an influential work on the potential impossibility of such an enterprise, see Thomas Nagel, What Is It Like to Be a Bat?, 83 THE PHIL. REV. 435 (1974); see also Steven W. Teppler, Testable Reliability: A Modernized Approach to ESI Admissibility, 12 AVE MARIA L. REV. 213, 255 (2014) (citing A. M. Turing, Computing Machinery and Intelligence, 59 MIND 433, 433-34 (1950)) (“The Turing
But for the prior three decades, such critical strategies have not been cultivated: “[m]indless computerized searching” has become the status quo to the profound loss of the progressive liberatory movement. 276 The online medium then “has not been a godsend for legal reformers,” and instead has “actively impeded the search for new theories and remedies.” 277

As demonstrated by Delgado and Stefancic, “the pace of law reform seems to have slowed since [electronic searching] arrived in the early 1980s.” 278 Before the computerized research era, there stretched a long period of “legal ferment” wherein attorneys devised progressive reforms in such areas as civil rights, consumer’s rights, and environmental protection. 279 But in the online research era, such reforms stalled.

Color-blind jurisprudence has slowed the pace of racial reform, and when legislators imposed tort reforms limiting the ability of consumers and victims of medical malpractice to recover for their injuries, the tort bar had little response. Similarly, when conservative judges and legislators began limiting consumer remedies, for example, by insisting that patients mediate their claims against HMOs and doctors who committed malpractice, lawyers responded with no new legal theories, even though many were (and still are) available. 280

Although the transition to online legal research was, of course, only one factor among many that slowed the pace of law reform, 281 Delgado and Stefancic make a convincing case for its role. Thus, due in part to the factors surveyed above, the doctrinal breakthroughs of the 1950s and 1960s largely waned following the so-called computer revolution.

Test is a proposal for a test of a machine’s capability to demonstrate thought. . . . It proceeds as follows: a human judge engages in a natural language conversation with two other parties, one a human and the other a machine; if the judge cannot reliably tell which is which, then the machine is said to pass the test.”); F. Patrick Hubbard, “Do Androids Dream?”: Personhood and Intelligent Artifacts, 83 TEMP. L. REV. 405, 473 (2011) (“In terms of intelligent artifacts, the questions are: What can we do, in changing ourselves, in changing animals, and in developing ‘thinking’ machines? What should we do?”) (emphasis added).

276. See Delgado & Stefancic, supra note 3, at 321.
277. Id. at 328.
278. Id. at 317.
279. See id. at 325–28.
280. Id. at 327.
281. See id. at 327-28 (“[M]any factors—conservative Republican administrations, a backlash against the ‘wild’ sixties and seventies, and globalization—may have played a part in slowing the pace of law reform, at least of the progressive kind.”).
E. Contemporary Critical Research Process

For the contemporary attorney pursuing progressive law reform initiatives, a number of critical strategies are perhaps uniquely suited for our online age. An overview of such strategies is not and could not be definitive. Legal research technologies change daily (Moore’s Law apparently governs now as well as ever), and critical research, as an inherently creative process, by its very nature resists a formulaic application. However, based on the insights proffered by luminaries within the discourse to date, the following critical strategies may function admirably as starting points for the researcher pursuing legal innovation. Most aptly, the strategies below may be characterized as just one potential version of a reconstructed legal research process.

1. Internalize Critical Insights
A researcher ought to internalize the central, critical analysis of the research process, as discussed above in this Article and covered fully in the broader literature. Such familiarization is imperative, as the researcher must establish a background foundation upon which to contextualize and to thereafter deploy more concrete critical strategies. For example, the critical research project depends upon a willingness to imaginatively de- and reconstruct legal concepts, an endeavor legitimized, in part, by the understanding that refined notions of doctrinal indeterminacy are no longer radical notions—but instead are the increasingly accepted norm.

Additionally, a reformist-minded attorney ought to familiarize herself with the historical development of the legal publishing industry. That a transnational triumvirate of legal publishers almost exclusively controls the means of commercial legal resource production, and that West in particular has held a century-long hegemony over legal categorizations, is extraordinarily pertinent to the attorney attempting to transcend existing systems of legal-conceptual constraint.

The researcher must also be fluent in the precise mechanics through which contemporary legal resources perpetuate the societal status quo. One must be aware of the West Topic and Key Number system’s continued (and

282. John O. McGinnis & Steven Wasick, Law’s Algorithm, 66 FLA. L. REV. 991, 1013 (2014) (“The main driver of continuing legal search improvement is Moore’s law. . . . Moore noticed that the number of transistors on an integrated circuit had roughly doubled every year over the previous seven years. With uncanny consistency, the exponential growth Moore identified has continued over the past forty-six years.”).

283. See Delgado & Stefancic, supra note 3, at 222.

284. See id.


286. See Gallacher, supra note 14, at 51.
multifaceted) ascendency, problematic search algorithm enhancements, the closed loop effect of brand-based resource cross-referencing, and so on.\textsuperscript{287}

To be sure, a reformist-minded attorney must understand just how legal research databases continue to function as agents of homogenization for research outcomes.

\section{2. Concept-Based Research}

With such a background foundation established, an attorney may then engage in a traditional, concept-based legal research process. Using databases or print legal resources, if available, the researcher should determine how the given fact pattern likely will be characterized within the existing unreconstructed legal landscape (i.e., the classic hunt for the supposed \textit{ratio decidendi}).\textsuperscript{288} The researcher should cultivate concept-based legal research methodologies, as opposed to purely fact-based methods, to locate such “controlling” legal categories that will serve as starting points for the critical interrogation of the existing legal framework at issue.\textsuperscript{289}

There are a number of concept-based research methodologies. These may include the usage of a wide range of secondary resources, which naturally function to categorize areas of law, and the West Topic and Key Number system (e.g., as embedded in online West headnote functionality).\textsuperscript{290} An additional concept-based methodology includes reading all found authorities in \textit{full}—as opposed to mere selective skimming, which online research likely encourages.\textsuperscript{291} The researcher should consider using print legal resources when possible to maximize browsing opportunities, and thus also maximize analogical reasoning.\textsuperscript{292}

\section{3. Alternative Legal Resources}

When searching online for doctrinal legal content, an attorney may consider using such alternative resources as Fastcase, the Cornell Legal Information Institute, and GPO FDsys.\textsuperscript{293} While any online resource is

\begin{itemize}
  \item \textsuperscript{287} See Part II(C).
  \item \textsuperscript{288} See Delgado & Stefancic, \textit{supra} note 3, at 319–21.
  \item \textsuperscript{289} See \textit{id}.
  \item \textsuperscript{290} See Bast & Pyle, \textit{supra} note 84, at 294.
  \item \textsuperscript{291} See, Ian Rowlands et al., \textit{The Google Generation: The Information Behaviour of The Researcher of The Future}, 60.4 \textit{ASLIB J. OF INFO. MGMT.}, 290, 294 (2008) (“In general terms, this new form of information seeking behaviour can be characterised as being horizontal, bouncing, checking and viewing in nature. Users are promiscuous, diverse and volatile. . . . ”).
  \item \textsuperscript{292} See Delgado & Stefancic, \textit{supra} note 3, at 310.
  \item \textsuperscript{293} See generally Justiss, \textit{supra} note 66 (discussing that large law firms do not
inherently biased, these alternative resources at least are devoid of many of the explicit commercial channeling agents endemic to the premier legal databases. Alternative resources may provide more neutral avenues through which to view the law.

4. Legal Scholarly and Multidisciplinary Research

After researching the existing doctrinal landscape, a next step may involve mining legal scholarly and related cross- and multidisciplinary resources. As Farmer writes, “often we fail to look outside the system box in which we are conceptually housed.” Searching “outside the system box” is an enterprise traditionally reserved for legal theorists alone, and so “practitioners are often insulated from external questions.” Thus, practitioners pursuing systemic change ought to go “beyond the usual” legal resources and should “join legal theorists” in using “materials that reflect on social, political, and cultural theory.”

For the attorney searching for law reform ideas vis-à-vis scholarly texts within the commercial legal databases, law review articles, as a selected source or sub-database, are the obvious starting places. Delgado and Stefancic, for example, reference “recent law review articles by critical race feminists” as inspirational sources for a novel “intersectional discrimination” cause of action. Thousands of contemporary law review articles mandate the use of primary source alternatives to Westlaw and Lexis).

294. See supra text accompanying note 248.
295. See Farris, supra note 77, at 27–28.
296. Farmer, supra note 3, at 403.
297. Id.
298. Id. See also Julie Krishnaswami, Critical Information Theory: A New Foundation for Teaching Regulatory Research, in THE BOULDER STATEMENTS ON LEGAL RESEARCH EDUCATION: THE INTERSECTION ON INTELLECTUAL SKILLS AND PRACTICAL SKILLS 175, 175 (2014) (“[I]n legal research instruction, students are rarely exposed to interdisciplinary research methods or perspectives that will help them consider the more profound and complex aspects of legal information resources.”); Nisha Agarwal & Jocelyn Simonson, Thinking Like A Public Interest Lawyer: Theory, Practice, and Pedagogy, 34 N.Y.U. REV. L. & SOC. CHANGE 455, 459 (2010) (“While the Carnegie Report discusses the legal profession as a whole, some scholars have suggested that its emphasis on integrating theory, practice, and morality has special significance for those committed to public interest law, given the inherently normative character of public interest legal practice . . . .”); Julie A. Su & Eric K. Yamamoto, Critical Coalitions: Theory and Praxis, in CROSSROADS, DIRECTIONS, AND A NEW CRITICAL RACE THEORY 379, 387 (Francisco Valdes et al. eds., 2002) (exploring the role of “activist lawyers as theorists” through asking such questions as “how can civil-rights lawyers draw more deeply from the well of critical race insights to energize and sometimes refocus efforts in the trenches?”).
299. Delgado & Stefancic, supra note 3, at 320.
articles from most legal journals can be found in commercial legal databases.

However, not all commercial firm plans provide complete access to legal periodicals, and the most recent articles and niche legal journals are often absent from the commercial databases entirely. For access to such scholarship, researchers should make use of the free, online repositories such as SSRN and the BePress Law Review Commons.

To truly “search outside the system box,” researchers also may seek out cross- and multidisciplinary materials. Online repositories make available scholarship across all disciplines—not just law; leading repositories include SSRN, Digital Commons, and JSTOR “Register & Read.” Google Books, a repository containing millions of scanned books (including academic monographs) also may constitute a useful research resource. An attorney may seek out relevant interdisciplinary materials through local academic libraries.

5. Unplugging and Brainstorming Sessions

After such resource-gathering methods have been exhausted, an attorney may engage in (more purely) analytical strategies. Perhaps most importantly, the critical researcher should, at this point, consider unplugging. For Delgado and Stefancic, unplugging is indeed a key component of the contemporary critical process:

One possibility that we must entertain is that when searching for a new legal remedy, we should turn our computers off. Lawyers interested in representing clients who (unlike corporations) do not find a ready-made body of developed law in their favor need to spend time with the computer shut down, mulling over what an ideal legal world would look like from the client’s perspective. In this exercise, the free association of ideas, policies, and social needs will play a large part.

The endgame of the critical project—“radically transforming legal

300. See Ramsay, supra note 80, at 141, n. 18, 20.
301. See Arewa supra note 49, at 808-9.
305. Delgado & Stefancic, supra note 3, at 328.
doctrines”—has remained fundamentally unchanged in the online era. But as doctrinal innovation ultimately depends upon people, not computers, cultivating a people-based analytical methodology is essential for genuinely effective law reform. Brainstorming sessions with diverse perspectives at play is a particularly apt strategy for law reform, because progressive movements, by their very nature, are often defined by collaborative discourse.

Researchers contemplating law reform strategies and their collaborators need not be members of the elite intelligentsia or the greater progressive status quo. Perhaps the very opposite is preferable. As Delgado and Stefancic write, few attorneys successfully “break free from the constraints of preexisting thought” and proffer “effective new approaches.” But such thinkers who do often are “individuals whose life experiences have differed markedly from those of their contemporaries. They may be members of marginal groups, or persons who are in other ways separated from the mainstream.” Individuals from all corners of the legal profession may have much to add to the law reform landscape. So too, may non-lawyer citizens and activists: to be sure, “[i]nvolving the community can assist in effective law reform strategies.” For instance, “synergies between activists working for social change and lawyers seeking law reform” may produce the most dynamic sociolegal change, in that

306.  Id.
308.  See Sumi Cho & Robert Westley, Historicizing Critical Race Theory’s Cutting Edge: Key Movements That Performed the Theory, in CROSSROADS, DIRECTIONS, AND A NEW CRITICAL RACE THEORY 51 (Francisco Valdes et. al. eds., 2002) (“Synergism is a vitally important possibility for a project, such as CRT, that attempts to affect the political world though discursive intervention. Such a project is necessarily collective and collaborative, requiring analysis of information and exchange of insights gleaned from the experiences of [many] movements . . . ”).
309.  See Duncan Kennedy, Political Power and Cultural Subordination, in AFTER IDENTITY: READER IN LAW AND CULTURE 95 (Dan Danielsen & Karen Engle eds., 2013) (noting that the United States still is marked by an “overwhelmingly white legal intelligentsia.”).
310.  Triple Helix Dilemma, supra note 3, at 222.
311.  Id. at 223.
“each activity can catalyze and in turn be amplified by the other.”

Diverse voices then ought to be a vital component of any meaningful law reform undertaking.

IV. APPLICATION OF CRITICAL LEGAL RESEARCH: MOUNTAINTOP REMOVAL LAW REFORM

This Article now has detailed the collective problematic aspects of the following: the legal publishing industry, the preeminent print and online legal research resources, and the legal research process as traditionally conceived. Based on the insights developed in the existing literature, this Article then put forth a loose constellation of strategies that may together constitute one reconstructed version of the legal research process—as imbued with critical theory and pertinent related discourses. This Article now will pivot, by providing an overview of the law governing mountaintop removal mining and the various reform strategies put forth by commentators aiming to halt this destructive mining practice. Lastly, the critical research strategies outlined above will be applied to the law governing mountaintop removal mining, demonstrating that core feminist methodologies may dramatically alter the mountaintop removal law reform landscape.

A. Mountaintop Removal Law

The central Appalachian region of the United States, after more than a century of exploitation at the hands of the coal extraction industry, is perhaps a supreme exemplar of the phenomenon known as the resource curse. Alternatively termed the paradox of plenty, the resource curse is “a designation that denotes a pattern of social, political, and economic problems in areas rich in natural resources.”

Presumably, such resource-rich regions would boast high standards of living; however, outside economic interests—the coal industry, in this context—"wield[] power over the [region] at the expense of its citizens and the natural environment." That the coal industry is perennially aided by captured ruling elites (e.g., state politicians, regulatory officials, etc.), and has gained the widespread support of the very citizens it subjugates most egregiously, are defining characteristics of the Appalachian resource curse. One might say that, in Appalachia, coal controls all: vast

315. STANDING OUR GROUND, supra note 27, at 23.
316. Id. at 24.
317. Id. at 24–26.
intersections exist “between environmental problems caused by coal operations . . . and the iniquitous social and economic conditions” of the region.\textsuperscript{318}

Any efforts then to achieve transformative change in Appalachia necessarily must involve reform to the sociolegal apparatus governing the coal extraction industry: the epicenter of harm.\textsuperscript{319} For the last two decades, mountaintop removal mining has emerged as the increasingly dominant surface mining practice in the region, due to (1) amendments to the Clean Air Act, which have incentivized coal burning plants to favor the low-sulfur coal endemic to central Appalachia; and (2) advances in pertinent mining technology, such as the development of massive excavation equipment.\textsuperscript{320} As reported by the Congressional Research Service, mountaintop removal mining now has swelled to “an area of approximately 12 million acres located in portions of Kentucky, West Virginia, Virginia, Tennessee, Pennsylvania, and Ohio.”\textsuperscript{321}

Mountaintop removal also ranks among the most destructive mining techniques yet devised, scouring Appalachian communities and surrounding ecosystems alike.\textsuperscript{322} Thus, from a law reform perspective, mountaintop removal jurisprudence is an ideal site from which to pursue reform vis-à-vis critical legal research strategies.

1. Mining Process

The mountaintop removal mining process is as follows. Mining operations use explosives to blast off mountaintops—up to a thousand feet of each peak—revealing rich seams of coal.\textsuperscript{323} After the coal is extracted, mining operations may qualify for variances exempting the companies from restoration requirements.\textsuperscript{324} In those instances where federal law does require the industry to restore the “approximate original contour”\textsuperscript{325} of the mountain, the original contour is restored in only a superficial sense, as operations meet the requirements by dumping a portion of the blasted

\begin{itemize}
\item \textsuperscript{318} Id. at 23.
\item \textsuperscript{319} Id. at 23–26; see also Isaac Forman, The Uncertain Future of NEPA and Mountaintop Removal, 36 COLUM. J. ENVTL. L. 163, 165 (2011) (“Ever since miners battled coal companies for the right to unionize early in the twentieth century, coal and politics in West Virginia have been inseparable.”).
\item \textsuperscript{320} See Baller & Pantilat, supra note 28, at 631–32.
\item \textsuperscript{321} CLAUDIA COPELAND, CONG. RESEARCH SERV., RS21421, MOUNTAINTOP MINING: BACKGROUND ON CURRENT CONTROVERSIES 1 (2014).
\item \textsuperscript{322} See Baller & Pantilat, supra note 28, at 632–33.
\item \textsuperscript{323} Id. at 631.
\item \textsuperscript{324} See Gersen, supra note 32, at 458.
\item \textsuperscript{325} 30 U.S.C. § 1265(b)(3) (2012).
\end{itemize}
materials back on the site.\textsuperscript{326} That is, through such dumping practices, the pre-mined, diverse woodland ecosystems are not restored; monolithic grasslands atop “rounded hilltops bare scant resemblance to the natural landscape.”\textsuperscript{327}

The remnants of the blasted peaks, constituting tons of rock and soil, known as “overburden” or “excess soil,” are piled permanently in valleys adjacent to the mountains.\textsuperscript{328} The dumped materials create valley fills that often rise “hundreds of feet high on top of headwater streams.”\textsuperscript{329} Valley fills are responsible for much of the overarching damage wrought by mountaintop removal.\textsuperscript{330}

Indeed, the direct environmental and human health harms of mountaintop removal are legion. Over one thousand miles of crucial, headwater streams have been “directly impacted”\textsuperscript{331} and in many instances, completely “obliterated”\textsuperscript{332} by valley fill operations. As the U.S. Fish and Wildlife Services reports: “the loss of these streams and their associated forests may have ecosystem-wide implications.”\textsuperscript{333} Moreover, mountaintop removal mining is linked to increased flash flooding, and the affected waters downstream from valley fills contain elevated levels of such toxic chemicals as selenium, sulfates, aluminum, zinc, and BTEX compounds, all of which are harmful to aquatic life—and to the Appalachian people drinking the water.\textsuperscript{334}

Mountaintop removal mining also produces elevated levels of “airborne hazardous dust,” and demonstrably causes “increased adult hospitalizations for lung cancer, heart, lung, kidney disease, and chronic pulmonary

\textsuperscript{326} See Gersen, supra note 32, at 458–59.

\textsuperscript{327} See id. at 459-61 (“[I]t may never be possible to resurrect an Appalachian forest on a blasted mountain because MTR removes the topsoil and drainage features that allow native trees to take root.”).

\textsuperscript{328} Michael Braverman, King of the Hill: Ohio Valley Environmental Coalition v. Aracoma Coal Company and the Battle Raging Between the Coal Industry and Environmentalists over Mountaintop Mining, 21 VILL. ENVTL. L.J. 293, 296 (2010).


\textsuperscript{330} See id.


\textsuperscript{332} Gersen, supra note 32, at 462.

\textsuperscript{333} Pick and Shovel, supra note 38, at 57 (quoting U.S. Fish and Wildlife Service Report to EPA Region III dated September 23, 1998).

\textsuperscript{334} Forman, supra note 319, at 168; S. Appalachian Mountain Stewards v. A & G Coal Corp., 758 F.3d 560, 562 (4th Cir. 2014).
disorders; and elevated mortality rates. Recent studies also have established a link between mountaintop removal and birth defects in Appalachia. These costs ultimately are not borne by the coal industry, but instead largely fall on Appalachian coal mining communities, thus constituting textbook examples of negative economic externalities.

2. Regulation Under the CWA and NEPA

An attorney conducting traditional, concept-based legal research on mountaintop removal would discover that a complex schema of federal and state law, much of it statutory and regulatory-based, has been held to govern the mining practice.

Mountaintop removal, like all mining, is highly regulated. The dangers of mountaintop removal can be regulated through the common law of torts and property, state statutes, as well as broad federal statutes such as the Surface Mine Control and Reclamation Act (SMCRA), the Clean Water Act (CWA), and the National Environmental Policy Act (NEPA). Although not an affirmative source of regulatory authority, the Environmental Justice Executive Order (E.O. 12,898) is also relevant to mountaintop removal due to its potential impact on low-income populations.

Thus, in the search for justice, a wide range of law potentially is implicated in efforts to halt or to otherwise internalize externalities caused by mountaintop removal operations. In particular, much of the controversial mountain removal litigation to date has focused on federal agency action vis-à-vis provisions of these key federal statutes.

SMCRA, a federal statute that effectively curtailed the worst mining practices in Appalachia (i.e., before the emergence of mountaintop removal mining) mandates a cooperative federalism schema for surface mining. Minimum standards are set at the federal level, and the states then

335. Forman, supra note 319, at 168.
337. See generally McGinley & Haden, supra note 12, at 258.
338. Smith, supra note 29, at 179.
339. See Gersen, supra note 32, at 472.
340. 30 U.S.C. § 1201(k) (2012); see Pick and Shovel, supra note 38, at 54 (“In the quarter century since enactment of SMCRA, the environmental degradation and attendant adverse social and economic impacts on coalfield communities continue, albeit not at the catastrophic levels that existed in the pre-SMCRA years when coal mining was essentially unregulated.”).
promulgate comprehensive plans to meet those standards. SMCRA sets the “approximate original contour” standard for mountaintop removal mining, and also makes provision for a buffer zone rule, requiring mining operations to meet certain environmental standards when operating within one hundred feet of applicable streams.

SMCRA has a savings clause providing that the Act shall not be construed as superseding the CWA, and the CWA is implicated when mountaintop removal operations dump excess spoil into headwaters. The CWA requires that valley fill operations obtain permits, which are issued through two programs. The first is the National Pollutant Discharge Elimination System (NPDES) program, wherein permits are issued by the EPA or EPA-approved state permitting authorities under CWA § 402. The second is the dredge and fill permitting program administered by the Army Corps of Engineers under CWA § 404.

The EPA’s role vis-à-vis CWA § 404 bares close scrutiny. While Congress delegated the sole power to grant or deny dredge and fill permits


343. 30 C.F.R. § 715.17(d)(3) (2014); see also 30 C.F.R. § 816.57 (2014) invalidated by Nat’l Parks Conservation Ass’n v. Jewell, No. CV 09-00115 (BJR), 2014 WL 5355048, at *9 (D.D.C. Feb. 20, 2014). The Office of Surface Mining’s original buffer zone rule—the 1983 stream buffer zone rule—was revised in 2008. But in 2014, the District Court for the D.C. Circuit vacated the 2008 rule. See COPELAND, supra note 321, at 7 (“The Obama Administration [sought to return the 2008 rule] to the more stringent 1983 rule . . . . In February 2014, the same federal court ruled that the 2008 rule had been issued without necessary consultation with federal wildlife agencies.”). For a discussion on current efforts to revise the rule, see id. at 10.

344. 30 U.S.C. §1292(a)(3) (2012); see Rapp, supra note 341, at 104–05. The CWA was passed to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” 33 U.S.C. § 1251(a) (2012).

345. See Ohio Valley Envtl. Coal. v. Aracoma Coal Co., 556 F.3d 177, 190 (4th Cir. 2009); Rapp, supra note 341, at 104–05.


347. 33 U.S.C. §§1342, 1362(12) (2012), see also Ohio Valley Envtl. Coal. v. Aracoma Coal Co., 556 F.3d 177, 190 (4th Cir. 2009) (“States wishing to administer their own NPDES program must be approved by the Environmental Protection Agency . . . before they can begin issuing § 402 permits.”).

348. 33 U.S.C. §1344 (2012), see also Laura Kathryn Bomyea, Note, Dynamite, Disaster and Disappearing Options: How the EPA Is Losing the Battle Against Destructive Mountaintop Removal Coal Mining Practices, 6 ALB. GOV’T L. REV. 224, 233 (2013) (“Mountaintop removal mining] also grew exponentially under President George W. Bush, due in large part to the Administration’s redefinition of ‘fill material’ which exempted ‘mine overburden’ from regulation under the CWA § 402, ensuring that the material was regulated exclusively under CWA § 404.”).
to the Corps, CWA § 404 permits must be issued in accordance with the standards promulgated by the EPA, which are known as the § 404(b)(1) guidelines. A public interest review also is required prior to permit issuances. Additionally, the EPA is granted, through CWA § 404(c), the right “to deny or restrict the use of certain areas as fill disposal sites due to environmental concerns.” The EPA has also exercised advisory roles to the Corps via extra-statutory functions.

NEPA requires agencies “proposing major federal actions ‘significantly affecting’ the human environment [to] complete an Environmental Impact Statement (EIS) before commencing the project.” Recent litigation has stemmed from the Corps’ failure to prepare an adequate EIS for mountaintop removal operations, as required by the CWA.

Unfortunately, a “history of adverse outcomes for environmental plaintiffs” largely has marked the pursuit of “court enforcement of federal environmental laws” governing mountaintop removal operations. A plain reading of applicable federal statutes—especially the CWA and NEPA—supports most arguments to date proffered by environmental

353. Bomyea, supra note 348, at 249 (citing 33 U.S.C. § 1344(c) (2012)).
354. See Nat’l Min. Ass’n v. McCarthy, 758 F.3d 243, 249 (D.C. Cir. 2014) (“So plaintiffs’ objection here is simply to enhanced consultation and coordination between two federal agencies. But no statutory provision forbids EPA from consulting with or coordinating with the Corps, or vice versa.”).
355. Rapp, supra note 341, at 100 (quoting 42 U.S.C. § 4332(c) (2012)); see also Forman, supra note 319, at 169–70 (“NEPA is a procedural statute, focused on ensuring informed decision-making rather than compelling particular results or imposing substantive obligations.”).
357. Gersen, supra note 32, at 472.
Indeed, the Southern District of West Virginia, the venue in which most anti-mountaintop removal suits have been litigated, has largely ruled in accordance with such claims. However, time and time again, at the appellate level, the “Fourth Circuit’s inclination to defer to permitting agencies, and the Court’s unwillingness to enforce the application of federal law by state officials,” has resulted in reversals of the Southern District. Thus, “the higher court has resolved the diverging government interests . . . in favor of Corps decisions that promote energy extraction,” even when the “Corps has granted permits in a manner that directly contradicts the statutory and regulatory commands of NEPA and the CWA.”

Numerous cases illustrate this longstanding trend. In Kentuckians for the Commonwealth, Inc. v. Rivenburgh, environmental plaintiffs alleged that the Corps violated CWA § 404 and its own regulatory definition of “fill material” in issuing a mining permit. The Southern District of West Virginia agreed, broadly enjoining the Corps from issuing such overburden permits “solely for the purpose of waste disposal” under CWA § 404, citing, in support, both the plain language of CWA § 404 and the congressional intent of the CWA. But the Fourth Circuit reversed, holding that the injunction was overly broad and finding statutory ambiguity in CWA § 404—thus entitling the Corps’ interpretation of “fill material” to Chevron deference. Under the Fourth Circuit’s ruling, the end result was that “the Corps could ignore its own regulations defining the permissible scope of section 404,” in addition to the clear dictates of the CWA.

In Bragg v. Robertson, environmental plaintiffs brought a host of claims under SMCRA, NEPA, and the CWA against the Corps and the West

358. See Rapp, supra note 341, at 118.
359. See id.
360. Gersen, supra note 32, at 472.
361. Rapp, supra note 341, at 118.
363. Rivenburgh, 204 F. Supp. 2d at 940, 946.
364. Id. at 927.
365. Rapp, supra note 341, at 110.
Virginia Department of Environmental Protection (WVDEP). Ruling on the key issue (that did not settle) at trial, the Southern District enjoined the WVDEP from issuing permits without complying with the SMCRA one hundred foot buffer zone rule. The Fourth Circuit, avoiding these substantive issues, reversed on sovereign immunity grounds.

Likewise, in *Ohio Valley Environmental Coalition v. U.S. Army Corps of Engineers*, the Southern District held that the Corps violated the CWA and NEPA by failing to *inter alia* (1) comply with the EPA’s § 404(b)(1) guidelines, which require the Corps to “assess the effects of the discharge on the ‘structure and function’ of the aquatic ecosystem” and; (2) prepare an EIS that adequately assessed the “environmental impact” of the CWA § 404 fill permits at issue. Again, the Fourth Circuit reversed, giving deference to the Corps and “accusing the district court of [substituting] its judgment for that of the agency.” The Fourth Circuit again “couched its approval of extractive activities as judicial deference to Corps expertise.”

In *Kentuckians for Commonwealth v. U.S. Army Corps of Engineers*, the Western District of Kentucky held that the Corps did not violate the CWA or NEPA in issuing a CWA § 404 fill permit. Environmental plaintiffs alleged that the Corps failed to again take a hard look at “environmental impacts under NEPA,” and that the Corps did not, in issuing the permit, consider adverse effects upon water quality—nor upon human health and welfare—as required by the EPA’s § 404(b)(1) guidelines. Plaintiffs also alleged that the Corps failed to properly consider the “needs and welfare of the people” in violation of the Corps’ codified public interest review requirements. In making such claims, plaintiffs relied heavily upon the recent, groundbreaking “human health studies linking mining to

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366. *See* *Gersen, supra* note 32, at 468.


368. *Bragg*, 248 F.3d at 286.


370. 479 F. Supp. 2d at 616, 640–41.


374. 963 F. Supp. 2d at 674.

375. *Id.*
negative health impacts, including increased birth defects.\footnote{376} However, the Court held that the Corps "was only required to address the collective and cumulative effects of the \textit{authorized discharges}.’ The health studies were beyond the scope of the COE’s authority and review."\footnote{377} The Sixth Circuit affirmed upon appeal.\footnote{378}

However, in a historic victory, environmental plaintiffs in fact prevailed in the most recent Fourth Circuit decision on mountaintop removal. In \textit{Southern Appalachian Mountain Stewards v. A & G Coal Corp.}, the Fourth Circuit held that a mining operator violated the CWA in failing to disclose its discharge of the pollutant selenium—as was required in its CWA § 402 permit application.\footnote{379} Although the operator alleged that the "permit shield" defense precluded liability, the Court correctly held that this defense is unavailable for such a pollutant disclosure failure.\footnote{380} In a striking shift in tone, the Court concluded its decision by stating: "To allow the defense in these circumstances would tear a large hole in the CWA, whose purpose it is to protect the waters of Appalachia and the nation and their healthfulness, wildlife, and natural beauty."\footnote{381}

The \textit{A & G Coal Corp.} decision perhaps at least partially is explained by the recent reshuffling of the Fourth Circuit’s political composition. As illustrated in the pre-\textit{A & G Coal Corp.} decisions, environmental advocates seeking to end mountaintop removal mining traditionally have received "favorable district court opinions on the merits, only to be overturned by the Fourth Circuit."\footnote{382} But recent court appointments by President Obama likely have disrupted this pattern:

Presidential appointments to the Fourth Circuit may provide the most promising opportunity to alter the legal landscape for mountaintop mining opponents. The Fourth Circuit is widely perceived to be "the nation’s most conservative" circuit court, but the confirmation of Obama appointees Judges Andre Davis, Barbara Milano Keenan, and Albert Diaz means that for the first time in many years, a majority of Fourth Circuit
Circuit judges are Democratic appointees.383

Thus, the Fourth Circuit’s shifting composition indeed may have “temper[ed] the court’s apparent hostility to environmental plaintiffs,” which may result in further victories for anti-mountaintop mining advocates.384

As regards the EPA’s CWA § 404(c) veto power and its extra-statutory guidance prerogatives, the most recent decisions from the District of Columbia Circuit Court have also been more favorable for anti-mountaintop removal advocates.385 In Mingo Logan Coal Co. v. U.S. E.P.A., the D.C. Circuit held that the EPA acted within the scope of CWA § 404(c) in “withdraw[ing] a disposal site specification post-permit,”386 because the Act confers on the EPA through the “unambiguous language of subsection 404(c) . . . a broad veto power extending beyond the permit issuance.”387

Likewise, in National Min. Ass’n v. McCarthy, the D.C. Circuit held that an interagency coordination plan between the EPA and the Corps, in which the EPA proffered enhanced, extra-statutory guidance on mountaintop mining operations, did not violate the CWA.388 The Court also held that the EPA’s extra-statutory “final guidance” memorandum, which instructed staff members to recommend limitations on state-issued permits via CWA § 402, was also permissible under the CWA—as the memorandum constitutes a mere “general statement of policy,” as opposed to a binding legislative rule.389

These decisions from the Fourth Circuit and the D.C. Circuit constitute tangible victories for environmental advocates. Increased agency cooperation during crucial, pre-permit periods, a confirmation of the EPA’s CWA § 404(c) veto power, and a more centrist Fourth Circuit may provide increased opportunity for meaningful regulation of mountaintop removal

384. Id.
385. See, e.g., Big Win for EPA in Mountaintop Mining Case, 35 WESTLAW J. ENVTL. 1 (2014).
389. Id. at 253.
mining. But such developments, while welcome, are not tantamount to comprehensive solutions. As one commentator laments: “it would behoove all parties involved to come up with a better solution . . . . The Clean Water Act, and principles of environmental justice demand it.”

3. Common Law Remedies

Turning to common law remedies for mountaintop removal mining, commentators have posited that potential claims may arise through such actions as negligence, private nuisance, and public nuisance. Environmental plaintiffs pursuing such claims could seek injunctions or damages, as relevant. A private nuisance claim, which may be brought for any “nontrespassory invasion of another’s interest in the private use and enjoyment of land,” is applicable because mountaintop removal “interferes with landowners’ ability to use and enjoy their land . . . by increasing flood risk, emitting noise and vibrations, and spreading toxic dust.”

A public nuisance is “an unreasonable interference with a right common to the general public,” and an action may lie due to public health concerns caused by mountaintop removal. A public nuisance claim will lie so long as the “myriad public health consequences stem from aspects of the practice that current mining regulations do not specifically authorize,” such as negligent groundwater contamination or harms caused outside the scope of a permit. Negligence claims may be brought against mountaintop removal operations based on such harms as drinking water contamination.

Common law suits, like actions for court enforcement of federal environmental laws, have yet to systematically curtail mountaintop removal mining practices. For one, common law actions are normally pursued in state court, and historically “state court judges [have been] predisposed to rule for coal companies for political reasons.” Also, in the negligence context, causation is difficult to establish in cases involving medical risk due to such factors as extended latency periods for diseases caused by toxic

390. Bomyea, supra note 348, at 257.
391. See Gersen, supra note 32, at 477–81.
392. See id. at 479.
394. Gersen, supra note 32, at 478.
396. Gersen, supra note 32, at 480.
397. See id. at 479.
398. Id. at 477.
exposure.\textsuperscript{399} A final problem is that the applicable, established common
law protects people exclusively—not non-human animals or the greater
environment. Such actions “can only protect the environment
incidentally,” if at all, as mining companies may not be dissuaded from
halting or altering mining practices due to such human-centered claims.\textsuperscript{400}

That said, in the past decade, environmental plaintiffs in Appalachia
have achieved a measure of success in pursuing common law remedies—
and joint common law and statutory citizen suit actions.\textsuperscript{401} The caveat is
that such successes against mining operations have occurred \textit{outside} the
specific context of mountaintop removal mining.\textsuperscript{402} In a suit brought
against A.T. Massey Energy, a combined statutory citizen suit and nuisance
action resulted in both an injunction and a damages award of nearly half a
million dollars for West Virginia coalfield residents.\textsuperscript{403} As Patrick C.
McGinley writes, such victories certainly should embolden environmental
plaintiffs:

\begin{quote}
No longer do coal companies go to court with the expectation of
favorable treatment by judges and juries. The fact that citizen plaintiffs
are achieving success as they challenge the excesses of the coal industry
should encourage a second look by plaintiffs’ lawyers whom in the past
have shown little interest in taking on such clients.\textsuperscript{404}
\end{quote}

Therefore, much can be achieved through using common law suits or
“common law and statutory citizen suits in tandem to redress the injuries
caused by mining” in the context of mountaintop removal mining
specifically.\textsuperscript{405}

Beyond the context of litigation, many commentators have put forth
reformist statutory and regulatory strategies for ending mountaintop
removal mining. New federal legislation to amend key provisions of the
CWA may result in greater protections for coalmining communities and the
environment.\textsuperscript{406} However, such amendments are politically unlikely, as
“highly motivated interest groups like mining companies [are] able to
obtain preferred political outcomes.”\textsuperscript{407} Similarly, amendments to
SMCRA’s regulatory schema may provide enhanced environmental protection through such avenues as stricter buffer zone requirements. But again such amendments require favorable political conditions that currently appear nonexistent. A particularly innovative approach involves reducing demand for mountaintop removal mining coal through state legislation that prohibits power companies from purchasing such coal. While commentators predict that such state acts would be largely symbolic, nevertheless these “proposals can raise awareness about mountaintop removal, shape norms regarding MTR, and set the tone of the national debate.”

B. Critical Research Strategies Applied to Mountaintop Removal Law

Anti-mountaintop removal advocates have made substantial gains through extraordinary efforts in recent years. Furthermore, there is promise for future litigation victories insofar as the Fourth Circuit, the Court wherein most environmental citizen suits are brought, becomes more centrist. Or perhaps policy oscillation (shifting more firmly in environmental advocates’ favor) at last will allow for a stringent regulation of surface mining operations. Although not yet broached in this Article, the dramatic market impact of the Marcellus Shale natural gas boom in Appalachia—an extraction practice carrying with it its own dire set of environmental and public health concerns—may catalyze a post-coal era.

408. Id. at 476.
409. Id. at 473.
410. Id. at 481.
411. Id. at 506.
412. See, e.g., Baller & Pantilat, supra note 28, at 663 (“Attorneys Joe Lovett, Jim Hecker, and Joan Mulhern are working to [end mountaintop removal mining]. While the campaign for change has been frustrating and discouraging at times, these attorneys are committed for the long-haul . . . . The success of the litigation is a manifestation of their determination and perseverance . . . .”).
413. See Braverman, supra note 328, at 321-23.
414. See Kaitlyn R. Maxwell, Note, Eroding the Public’s Right to Clean Air: Examination of the Hazardous Air Pollutants Exemption for Natural Gas Drilling Under the Clean Air Act, 21 B.U. PUB. INT. L.J. 153, 157 (2011) (“Environmental and public health scientists, scholars, and policymakers have identified two fundamental environmental and public health concerns associated with natural gas drilling: (1) drinking water contamination caused by hydraulic fracturing used to extract natural gas; and (2) reduced air quality due to the release of hazardous air pollutants during production.”); John Manuel, Mining: EPA Tackles Fracking, 118.5 ENVT. HEALTH PERSPECTIVES a118, a199 (2010) (“Some of these deposits, such as the Marcellus Shale running under the Appalachian Basin, lie beneath watersheds supplying drinking water to millions of people. In many locations fracking . . . occurs within hundreds of feet of residences that use wells for drinking water.”).
sooner than predicted for the region, mixed blessing though that may be.\footnote{415}{See, e.g., Sarah Tincher, \textit{Report: Market Forces, Not EPA, to Blame for Coal Decline}, \textit{The State J.} (Oct. 14, 2014), available at http://www.statejournal.com/story/26883400/report-market-forces-not-epa-to-blame-for-coaldecline; see also Alison Cassady, \textit{Complex Market Forces are Challenging Appalachian Coal Mining}, \textit{Ctr. for Am. Progress} (Oct. 06, 2014), available at https://www.americanprogress.org/issues/green/report/2014/10/06/98371/complex-market-forces-are-challenging-appalachian-coal-mining/ (“Appalachia’s coal communities are confronting a confluence of market factors that are years in the making . . . . including low domestic and international prices for both thermal and metallurgical coal, soft natural gas prices, and increased imports—primarily from Colombia.”).}

Whatever the shifting legal, economic, and ideological landscape may be, critical legal research strategies will be of service to the reformist-minded attorney. Innovative approaches to law and discourse can be as necessary in good times as in the bad, and as discussed below, halting mountaintop removal is merely a beginning, and not the end, of easing Appalachia’s woes. The following section then demonstrates through one illustration how critical approaches to legal research can assist (i.e., can serve as one methodology, among a potential great many) in ultimately achieving such change.

\textit{1. Concept-Based Research}

In locating the mountaintop removal primary authority above, a wide range of concept-based legal research strategies may have been used by a researcher. When searching on an academic subscription to WestlawNext, a search for “mountaintop removal” within all secondary resources produces a number of relevant results, many from treatises.\footnote{416}{Westlaw search performed on WestlawNext on Dec. 14, 2014.} Such top treatise results include entries from \textit{Public Natural Resources Law, Second Edition, Rogers’ Environmental Law, Federal Environmental Regulation of Real Estate Law Digest}, and so on—all of which, of course, are Thomson Reuters products.\footnote{417}{2 PUBL. NAT.RES. L. § 19:17 (West 2015); 2 ENVTL. L. § 4:9 (West 2014); FED. ENVTL. REG. OF REAL ESTATE L. DIG. § 5:4 (West 2014).} These treatise entries then categorize the law at issue, listing legal concepts (e.g. “discharges of fill material and other pollutants”)\footnote{418}{2 FED. ENVTL. REG. OF REAL ESTATE § 5:4 (West 2015).} and specific primary authorities (e.g., “In a 2003 decision, the Fourth Circuit . . . .”)\footnote{419}{Id.} alike.

An additional concept-based approach involves using the West Topic and Key Number system, as embedded in WestlawNext. The West headnotes assigned to the seminal mountaintop removal cases (i.e., in the
context of court enforcement of federal environmental laws) are mostly
classified under the topics of Environmental Law, Mines and Minerals,
Statutes, and Administrative Law and Procedure. Prominent key numbers
(or sub-topics) include Coal Mining, Discharge of Pollutants, Permits and
Certifications, Discharge or Deposit of Dredged or Fill Material, Deference
to Agency in General, Wisdom, Judgment or Opinion, Permissible or
Reasonable Construction, Redressability, Cognizable Interests and Injuries,
and Persons Entitled to Sue or Seek Review.  

These West Topic and Key Number categories then, paired with the text
of the West-drafted case headnotes, define the “world of ‘thinkable
thoughts’” (at least to an extent) for the researcher investigating
mountaintop removal case law. For one, these West categories in part
drive the keyword search functionality—i.e., via the WestSearch algorithm.
Thus, the West-selected headnote and key number terms govern which
cases are retrieved and ranked according to the system’s relevancy
dictates.  

What is more, as researchers select individual cases and read the key
number and headnote texts which precede the actual opinion, West
succeeds in framing the issues at stake. For instance, one is struck by the
anachronistic strangeness of the sub-topic “Wisdom, Judgment or Opinion”
in the context of agency discretion. Are we indeed classifying the
catastrophic administrative regulation of mountaintop removal mining as
wise? 

More substantively, the sub-topic “Persons Entitled to Sue or Seek
Review” is telling. Already, in terms of redressability, the researcher is
told that only “persons” are “entitled” to seek relief. What of non-human
animals or harms to the greater environment? As Delgado points out, there
exists “discussions of novel theories for nontraditional plaintiffs, such as . . .
animals, indeterminate plaintiffs, or inanimate objects.” But in

420. Westlaw search performed on Dec. 14, 2014. See, e.g., Kentuckians for the
Commonwealth v. U.S. Army Corps of Eng’rs, 746 F.3d 698 (6th Cir. 2014); Ohio
Valley Envtl. Coal. v. Aracoma Coal Co., 556 F.3d 177 (4th Cir. 2009); Bragg v. W.
Va. Coal Ass’n, 248 F.3d 275 (4th Cir. 2001). The West headnotes are listed prior to
each decision proper.
421. Thinkable Thoughts, supra note 270, at 311.
422. See Wheeler, supra note 22, at 368.
Aracoma Coal Co., 556 F.3d 177 (4th Cir. 2009).  
424. See 556 F.3d at 177.
425. See id.
426. Delgado & Stefancic, supra note 3, at 320; see also Taimie L. Bryant, Animals
internalizing the explicit category of “Persons Entitled to Sue”—in accepting this as objective truth, not as an arbitrary classification barrier that merits de- and reconstruction—such is West’s power in framing, and thus in constraining, legal thought.  

The classification of “Cognizable Interests and Injuries” also bares close scrutiny. As a term of art, “cognizable injuries” specifically denotes that “some source of law treats the injury as sufficient to confer on the injured party the right to bring suit.” While the term “cognizable” likely carries with it an air of rational objectivity, such judgments are necessarily value-based: “deciding which harms are worthy of judicial and societal attention is an inescapably subjective exercise, informed by social norms.” The West-deployed term “cognizable” cloaks value judgments in a veneer of neutral rationality, effectively masking the subjective norms of existing standing doctrine.

Additional mountaintop removal search strategies include using statutory-based methods and related citation systems. For example, in retrieving CWA § 404 on WestlawNext (i.e., 33 U.S.C.A. § 1344), the researcher discovers that the statutory section is cross-linked to thousands of other sections.

LEGAL F. 137, 153-54 (2006) (“Animals’ legal status as potential or current property and their lack of legal personhood are the grandparents of all specific legal definitions of animals.”). But see Jessica Chasmar, Argentine Court Rules ‘Sandra’ the Orangutan has Human Right to Freedom, WASH. TIMES (Dec. 23, 2014), http://www.washingtontimes.com/news/2014/dec/22/argentine-court-rules-sandra-the-orangutan-has-hum/ (“A 29-year-old orangutan named Sandra is a ‘non-human person’ with a right to freedom and will be released from the zoo where she is being held, an Argentine court has ruled.”).

427. Doctrinal reconstruction along more unfortunate lines has allowed for the historical development of corporate or “artificial persons.” BLACK’S LAW DICTIONARY 1325 (10th ed. 2014) (“An entity, such as a corporation, created by law and given certain legal rights and duties of a human being; a being, real or imaginary, who for the purpose of legal reasoning is treated more or less as a human being.”); Atiba R. Ellis, Citizens United and Tiered Personhood, 44 J. MARSHALL L. REV. 717, 722 (2011) (“Citizens United continues to blur the distinction between artificial persons and natural persons.”); see also Saru M. Matambanadzo, Embodying Vulnerability: A Feminist Theory of the Person, 20 DUKE J. GENDER L. & POL’Y 45, 64 (2012) (“[E]fforts to expand legal recognition for fetuses and embryos—and the rights arising from it—may narrow the rights and reproductive choices of women.”).

428. See U.S. Army Corps of Eng’rs, 479 F. Supp. 2d at 607; Aracoma Coal Co., 556 F.3d at 177.


430. Black’s alternatively defines cognizable of as “capable of being known or recognized.” BLACK’S LAW DICTIONARY, supra note 427, at 316.

of legal documents via the annotations in the KeyCite citation functionality. This selection of cross-references is based on the editorial policies of Thomson Reuters. While over one thousand five hundred law review articles are listed under KeyCite’s “Citing References” to CWA § 404, just forty-five law review articles are organized under the “Context & Analysis” section. These forty-five highly vetted law review articles constitute those most likely to be used by the researcher—but the overriding question is, by what criteria was this fraction of articles selected by the publisher?

Under West’s broader “Citing References” section for CWA § 404, the researcher can view and search within all West-selected citing secondary resources. But again, questions arise as to the selection criteria. Therefore, through such citation channeling agents, West influences statutory-based research methodologies for mountaintop removal research.

In retrieving the identical statutory section (33 U.S.C.S. § 1344) in Lexis Advance, the citing secondary resources are, of course, unique. For example, similar to West, treatises published under the Reed-Elsevier umbrella are cross-linked via the statutory section’s citing secondary resources listed in the Shepard’s citator report. So too are over a thousand law review articles with an entirely different set of “most relevant” articles listed in the top results as compared to West, thus exemplifying the subjective nature of editorial discretion. That is, although Westlaw and Lexis draw from a nearly identical pool of law review journals, because the relevancy dictates and editorial policies differ on the two databases, the top or listed results (law review articles, in this context) often differ as well.

2. Alternative Legal Resources

To avoid such commercial channeling agents entirely, a researcher may consider utilizing alternative legal resources. In searching for “mountaintop removal” on GPO FDsys, one can readily retrieve such

435. 33 U.S.C.S. § 1344 (2014) (LEXIS through P.L. 113-203). If the resources and time are available, the reformist-minded researcher might consider using the analytical materials from both premier legal databases (or on Bloomberg Law, etc.) in order to gain as broad a perspective as possible.
decisions as *Ohio Valley Environmental Coalition v. Aracoma Coal Co.* through the official “United States Courts Opinion Collection.” The full texts of such decisions are devoid of all elements from the West Topic and Key Number system, KeyCite, and so on. Likewise, CWA § 404, as retrieved on the Cornell Legal Information Institute, is unencumbered by editorially selected cross-references within the KeyCite or Shepard’s citators. On these more neutral, alternative legal resources, a researcher may then analyze the retrieved primary authorities with the commercial channeling agents removed. As the keyword searches performed on such alternative resources are free from West algorithm enhancements, so too will the researcher likely benefit from search results differing from those on high-end legal databases.

### 3. Legal Scholarly and Multidisciplinary Research: Feminist Approach

After thus internalizing the existing mountaintop removal landscape through doctrinal research methodologies and thereafter deconstructing and sidestepping as appropriate the channeling influence of commercial legal databases, the critical researcher may next turn to commentaries in scholarly legal and cross- and multidisciplinary resources. For instance, a broad keyword search for “mountaintop removal & reform” in the “Law Reviews & Journals” sub-database in WestlawNext produces over nine thousand results—the top results of which, as selected by West’s relevancy dictates, are indeed of interest.

While many of the top retrieved articles from such a broad search are pertinent, the researcher ought to remember that such results are based on the subjective determinants of the West and Lexis systems. In other words, the critical researcher should consciously and continuously negotiate with online search systems; in exerting agency over retrieved results, as possible, through such means as targeted Boolean searching and sustained keyword innovation. For example, the syntactical calculi generated through the Boolean search “mountaintop removal” /p “environmental justice” & income produces more focused results in WestlawNext (i.e., just seven retrieved articles), as compared to the broader search above. Additional law review articles (not available on the
commercial legal databases) can be found through similar searches on SSRN, the BePress Law Reviews Commons, HeinOnline, and Google Scholar. Accordingly, the material discussed below is based on such numerous and varied searches.

a. Environmental Justice

An overarching, particularly useful discourse as found by searching in law journal sub-databases and online law review repositories involves the intersection of environmental law and critical theory. In its first few decades, “environmental law took root as a reformist project that avoided the critical concerns of ‘race, class, and gender’ and the postmodern insights of late twentieth social thinking and practice.” However, in more recent years, scholars have begun examining environmental law in the context of “a larger critical theoretical base,” an immensely important project as “the exploitation of the environment with which environmental law is concerned props up the unjust modernism with which critical theory is concerned.”

Like other contemporary critical movements, many scholars active in this vein are skeptical of internal, or traditional, law reform initiatives altogether, instead championing more revolutionary sociopolitical and economic “systemic re-formation.” Such projects, while certainly admirable, are largely beyond the scope of this Article—and, in any event, are not necessarily mutually exclusive with more incremental strategies of reform, as advocated in the general critical legal research literature. Therefore, the discussion here is concerned mostly with critical reform in the less radicalized context: that is, in crafting progressive, largely internal legal reforms (i.e., “intra-systemic ‘reform’”) through examining the intersection of environmental law and critical theory.

Environmental justice is a prominent sub-discourse within the broader critical environmentalist movement. The basic tenets of environmental justice are as follows:

The general thrust of environmental justice is a proportionate share issue


443. See Areva, supra note 49, at 809.
444. See generally M’Gonigle & Takeda, supra note 158.
445. Id. at 1107-10 (proposing a new movement entitled green legal theory).
446. Id.
447. Id. at 1027.
448. Id. at 1113.
regarding environmental burdens. . . . Overall, the concept is that when living in an industrialized society, there are both benefits and burdens associated with environmental issues, and when environmental injustice occurs, those burdens are disproportionately thrust upon low-income communities and communities of color.\textsuperscript{449}

Therefore, environmental justice advocates focus on the unjust societal distributions of environmental harms.

Third wave critical scholars have built upon the pioneering work of environmental justice advocates. Post-essentialist projects have included going “beyond treating race as fixed and biological. It also entails expanding environmental justice to recognize that each racial group is differently situated according to its specific socio-economic needs, political power, cultural values, and group goals.”\textsuperscript{450} Such insights “enable[] scholars and activists to better grapple with varying forms of subordination and to tailor specific remedies for the harms that are specific to each racial community.”\textsuperscript{451}

The environmental justice movement has gained considerable traction not just within the academy, but also within the actual environmental regulatory framework. Environmental Justice Executive Order (E.O. 12,898), handed down by President Clinton, and reinvigorated by President Obama, “requires administrative agencies to evaluate the socioeconomic and racial characteristics of communities” located in close proximity to “locally undesirable land uses” such as landfills, hazardous waste sites, and other environmental hazards.\textsuperscript{452}

In the last half decade, the “EPA has relied on emerging science and President Clinton’s executive order on Environmental Justice to rigorously review permits for mountaintop removal mining, and to determine when its
veto authority under CWA § 404(c) should be used to block a permit.\footnote{453} Furthermore, as codified at 33 C.F.R. § 320.4(a)(1), the Corps is required to conduct a pre-permit public interest review process that similarly accounts for the “needs and welfare of the people.”\footnote{454} The environmental justice movement then has made substantial inroads in framing the debate—and even in influencing outcomes—on mountaintop removal mining regulation.

The law review literature is rife with discussion on environmental justice in the context of mountaintop removal mining.\footnote{455} Scholars have noted that mountaintop removal “creates problems for people living near blasting sites, sending debris into people’s homes, polluting the water, and causing noise and land disturbance,” and these citizens most often are from “poor, rural communities with high unemployment rates and low to moderate development, who have lived on the land for generations.”\footnote{456} This dire situation has led one commentator to proclaim that in fact “mountaintop removal exemplifies the conditions that give rise to environmental justice issues.”\footnote{457}

Critical attention has focused primarily on low-income Appalachian communities.\footnote{458} Due to demographics, “mountaintop removal lacks the racial element of the paradigmatic environmental injustice cases.”\footnote{459} However, the prominent legal scholarly discourse on mountaintop removal conspicuously lacks a vitally applicable progressive strain: a dedicated

\footnote{453. Bomyea, \textit{supra} note 348, at 254.}
\footnote{454. 33 C.F.R. § 320.4(a)(1) (2014).}
\footnote{455. \textit{See generally} Pick and Shovel, \textit{supra} note 38; Paben, \textit{supra} note 449; Smith, \textit{supra} note 29; Bomyea, \textit{supra} note 348.}
\footnote{457. Smith, \textit{supra} note 29, at 171.}
\footnote{458. \textit{See sources cited} \textit{supra} note 455.}
\footnote{459. Gersen, \textit{supra} note 32, at 466. \textit{This is not to say} that a CRT or related analysis ought not to have a role in mountaintop removal mining critiques—indeed, such an analysis would constitute a vital contribution to the literature. Barry writes more on this subject: Because West Virginia is largely white, and the grassroots component of the anti-MTR movement primarily consists of white women, racial distinctions intersect with class and gender in important ways in coalfield culture. Examining cultural stereotypes of Appalachians, particularly the long-standing “hillbilly,” and situating this symbol within cultural studies scholarship on whiteness, reveals complex racial and class-based identities that have interesting environmental justice connections. \textit{Standing Our Ground}, \textit{supra} note 27, at 96-97; \textit{see also} sources cited \textit{supra} note 10 and accompanying text.}
feminist analysis.\textsuperscript{460} The addition of such an analysis could lead to crucial law reform initiatives.

\textit{b. Feminism and Environmental Justice}

The reformist-minded researcher generally may be aware that feminist discourses exist within the broader critical work on environmental law. But when searching for the intersection of feminist thought and mountaintop removal mining, virtually no pertinent results return on the law journal sub-databases in Westlaw and Lexis.\textsuperscript{461}

Similarly, the mountaintop removal primary authority discussed above (e.g., the mandated public interest review criteria) eschews a substantive analysis that extends beyond low-income populations in Appalachia.\textsuperscript{462} Therefore, the researcher discovers that feminist thought—among other potentially pertinent discourses, such as critical race theory,\textsuperscript{463} masculinities theory,\textsuperscript{464} or queer legal theory\textsuperscript{465}—is absent \textit{altogether} from both primary authority and the scholarly legal literature covering critical reforms for mountaintop removal mining.

As Delgado and Stefancic demonstrate, the requisite elements for new law reform initiatives may “lie somewhere in a database,” but putting such elements “together in a novel way must come from a human researcher.”\textsuperscript{466}

In this instance, conducting a broader search for feminism and environmental issues (i.e., beyond the specific context of mountaintop removal mining) yields beneficial results—that can, in turn, be applied to the law governing mountaintop removal.

Robert R.M. Verchick, for instance, writes about “insights that derive from both feminism and the environmental justice movement.”\textsuperscript{467}

\textsuperscript{460} But see Greener Voice, supra note 40, at 26 (1996) (explaining that a feminist “focus does not seek to minimize the role that racism, classism, and other forms of discrimination play in environmental justice issues. Rather, [such an approach may] acknowledge the relationship among many such biases.”).

\textsuperscript{461} Westlaw and Lexis searches performed on Dec. 14, 2014.

\textsuperscript{462} See sources cited supra note 351.

\textsuperscript{463} See sources cited supra note 459.

\textsuperscript{464} See generally Rebecca R. Scott, Dependent Masculinity and Political Culture in Pro-Mountaintop Removal Discourse: Or, How I Learned to Stop Worrying and Love the Dragline. 33 FEMINIST STUD. 484 (2007).

\textsuperscript{465} See Bud W. Jerke, Queer Ruralism, 34 HARV. J. L. & GENDER 259, 305 (2011) ("Ruralism and queer metronormativity intersect to create a particularly pernicious form of discrimination for queer rural dwellers: queer ruralism; that is, structural discrimination stemming from being queer and residing in a rural area.").

\textsuperscript{466} Delgado & Stefancic, supra note 3, at 321.

\textsuperscript{467} Robert R.M. Verchick, Katrina, Feminism, and Environmental Justice, 13 CARDOZO J.L. & GENDER 791, 792 (2008) [hereinafter Katrina].
Verchick points out, the “most visible and effective environmental justice organizations in the country are led by and consist mainly of women.”

Therefore, while the environmental justice movement is “an environmental movement, a civil rights movement, and a public health movement, it is also, quite literally, a women’s movement, and . . . a feminist movement as well.”

Environmental justice advocates “pursue[] goals important to many women,” because “women may be more vulnerable than men to many environmental dangers.” Such dangers include an increased “likelihood of suffering adverse health effects from exposure to certain pollutants,” due to the fact that women have a higher average body fat than men—and certain pollutants tend to “bioaccumulate in fatty tissue.” Environmental harms also “threaten[] women’s capacity to bear and nurse healthy children.” Finally, insofar as women “remain the primary caregivers in their homes and communities,” strong regard “for their own health and that of their family remains a primary concern.”

Many traditional feminist methodologies have been deployed within the environmental justice movement. A central feminist methodology is “unmasking patriarchy” through demonstrating how supposedly neutral laws in fact perpetuate white male supremacy. Remediying such biases may involve taking into account “the lives or feelings of women” through “blending those outside experiences into the political or legal process.”
In the environmental justice context, unmasked biases include identifying workplace contaminant laws that set minimum acceptable levels as being “safe for male workers, but not female workers.” Other examples include the “elevation of data crunching and technical jargon over common sense and community outreach,” as the former is associated with white male-dominated professions, while the latter reflects the self-reported approach of many women grassroots activists. The focus that “mainstream environmental groups place on litigation and other win/lose methods of problem solving” also is associated with “male attitudes.”

Other feminist methodologies used within the environmental justice movement include contextual reasoning and consciousness-raising. Contextual reasoning pertains to notions of the personal being political, in that activism and reform efforts of all varieties ought to account for the “influence of personal experience on law.” This may involve thrusting “previously unheard ‘bottom-up’ perspectives” of subordinated groups to the forefront of environmental legislative, judicial, and administrative policymaking in addition to related activist movements.

Consciousness-raising is defined as “the commitment to collective engagement, the public significance of private matters, and the acceptance of individual perspective.” Consciousness-raising, in the context of environmental justice, also focuses on the importance of elevating the experiences of environmentally-affected subordinated groups.

A keystone discourse that likely can shed much light on mountaintop removal reform initiatives is the movement known as ecofeminism. Associated with such scholars as Ellen O’Loughlin, Val Plumwood, and Vandana Shiva, third wave ecofeminism, which “embraces strategic uses of gendered inequalities and subordination, we might recast ‘unmasking patriarchy’ as ‘asking the gender question.’ Cast as a question, the method is released from any substantive and prescriptive commitments attendant to a characterization in terms of patriarchy.”; Nancy Perkins Spyke, The Land Use—Environmental Law Distinction: A Geo-Feminist Critique, 13 DUKE ENVT'L. L. & POL’Y F. 55, 77 (2002) (“While traditional legal methodology seeks predictability and certainty, feminist legal methods value flexibility in legal rules and seek to identify missing points of view. Three such methods are often associated with feminism: asking the ‘woman question,’ feminist practical reasoning, and consciousness raising.”).

476. Greener Voice, supra note 40, at 38.
477. Id. at 40.
478. Id. at 41.
479. Id. at 43-44; see sources cited supra note 475.
480. Greener Voice, supra note 40, at 46.
481. Id. at 52.
482. Id. at 52-54.
essentialism,”483 is a supremely multivocal movement.484 Ecofeminism explores the intersection of feminism and environmental concerns—but in accomplishing this, deploys a much broader analytical framework.

Since the dynamic of oppression is similar (though not identical or interchangeable) among oppressed peoples, and since most women experience this dynamic in more than one way (that is, through the dynamics of racism, classism, heterosexism, and ageism, as well as sexism), ecofeminism, in order to fight the oppression of women and nature, must look at more than just the ways in which sexism is related to naturism.485

The crux of ecofeminism then is that all forms of subordination are, in crucial ways, interlinked, stemming from a “shared dynamic of separation, fear, and resentment”486 characteristic of “capitalist, patriarchal forces.”487 Stated otherwise, core characteristics of these dominant paradigms include “hierarchical thinking, a logic of domination, and normative dualisms such as the separation of humans from nature.”488 This yields the conclusion that meaningful environmental law reform requires “a multi-layered analysis of environmental exploitation in the context of many kinds of discrimination.”489

All too often, the destruction of the environment and the subordination of marginalized groups are approached as inherently separate issues, each having its own causes and each requiring discrete solutions. For instance, curtailing environmental destruction may not be viewed as a requisite for a


484. Greener Voice, supra note 40, at 55.


486. Greener Voice, supra note 40, at 57.

487. STANDING OUR GROUND, supra note 27, at 114.


489. Greener Voice, supra note 40, at 58.
more just distribution of environmental harms among humans.\textsuperscript{490} Therefore, the “ecofeminist view of compound oppression contributes something new,” in that it “makes the avoidance of compound oppressions conceptually impossible: to take the ‘eco’ or the ‘feminism’ out of ecofeminism would, after all, negate the whole idea.”\textsuperscript{491} Ecofeminism then is a holistic approach that aims to “simultaneously us[e] the common goals of saving nature and ending oppression” to effect progressive change.\textsuperscript{492}

The researcher now has learned of pertinent legal scholarly discourses regarding potential avenues for feminist-based reform. Novel ideas proffered by commercial legal databases and online repositories of legal scholarship have been, in this specific context, largely exhausted. But what of any remaining insights proffered by cross- and multidisciplinary resources? What of going beyond commercial legal databases?

While Westlaw and Lexis fail to offer a feminist analysis of the law governing mountaintop removal mining, in searching “outside the system box” of these commercial legal databases, a researcher succeeds in discovering such materials that begin to fill the gap.\textsuperscript{493} In other words, a number of non-legal scholars indeed have proffered a feminist analysis of mountaintop removal, which may be of great benefit to the attorney searching for innovative ideas for feminist-inspired law reform initiatives.\textsuperscript{494} In actually locating such materials, the materials below were found via searches in such resources as Google Books and Scholar, EbscoHost, JSTOR, SSRN, and others.

In \textit{Standing Our Ground: Women, Environmental Justice, and the Fight to End Mountaintop Removal}, Joyce M. Barry “expands the EJ framework

\textsuperscript{490} See McLeod-Kilmurray, \textit{supra} note 488, at 145 (“We do not seek to protect nature from all harm, because of its inherent value. Instead, we seek to regulate how much harm is done, stopping short only when we might harm our own self interests.” (quoting Elaine Hughes, \textit{Fishwives and Other Tails: Ecofeminism and Environmental Law} 8 CAN. J. WOMEN & L. 502, 515 (1995))).

\textsuperscript{491} \textit{Greener Voice}, \textit{supra} note 40, at 58.

\textsuperscript{492} \textit{Id.} at 60.

\textsuperscript{493} Farmer, \textit{supra} note 3, at 403.

\textsuperscript{494} See generally \textit{STANDING OUR GROUND}, \textit{supra} note 27; \textit{Mountaineers, supra} note 41; Scott, \textit{supra} note 464; \textit{Shannon Bell, Our Roots Run Deep as Iron Weed} (2013); \textit{Rebecca R. Scott, Removing Mountains: Extracting Nature and Identity in the Appalachian Coalfields} (2010); Rebecca Spence, \textit{Feminism, Mountain Top Removal, and Appalachian Identity, Voices Of Claremont Graduate Univ. 258} (2011); Shannon E. Bell & Yvonne A. Braun, \textit{Coal, Identity, and the Gendering of Environmental Justice Activism in Central Appalachia}, 24.6 GENDER & SOC’Y 794 (2010); Joyce M. Barry, “A Small Group of Thoughtful, Committed Citizens”: \textit{Women’s Activism, Environmental Justice, and the Coal River Mountain Watch}, 1.1 ENVTL. JUST. 25 (2008).
by centralizing gender in this analysis of women’s involvement in the movement to end mountaintop removal coal mining in Appalachia.”

In contrast to the primary and scholarly-analytical resources in the commercial legal databases and elsewhere, Barry argues persuasively that “[g]ender is at the heart of the anti-MTR movement in Appalachia.”

In localizing many of the feminist critical insights above to the Appalachian mountaintop removal context, Barry demonstrates that women in Appalachia share a disproportionate burden of the harms wrought by mountaintop removal mining. In a general sense, “[w]omen in central Appalachia, particularly in the coalfields . . . lack social, political, and economic equality with men.” The root cause of these inequities in large part can be traced to the systemic forces undergirding the natural resource extraction industry.

For West Virginians, it is the coal industry, or “king coal,” that has systematically arranged the state’s resources for its benefit, while leaving state citizens politically and economically powerless. . . . Economic insecurity is particularly devastating to rural women, many of whom head families living in poverty. It is these women who have the primary responsibility of maintaining the domestic sphere in incredibly trying circumstances. Ultimately, women, with their productive or social reproductive work, suffer the harshest effects of all social ills, whether those ills are poverty, unemployment, or environmental destruction.

In terms of deleterious health effects, women may be more vulnerable than men to some pollutants associated with mountaintop removal mining, because through higher fat ratios, “women are particularly vulnerable to the accumulation of chemicals.” Women also may “potentially pass these toxins on their fetuses and/or children.” That recent studies establish a link between mountaintop removal mining and birth defects only confirms “the ways in which the body, and biological differences between men and women and their susceptibility to environmental toxins, is linked to material realities.”

Barry also demonstrates that, in the “effort to end mountaintop removal coal mining in Appalachia, women activists are a vital part of the

495. STANDING OUR GROUND, supra note 27, at 41.
496. Id. at 53.
497. Id. at 20.
498. Mountaineers, supra note 41, at 119.
499. STANDING OUR GROUND, supra note 27, at 54.
500. Id.
501. Id.
movement—representing in large numbers and in some cases shaping the nature of EJ campaigns. Women therefore occupy—and have long occupied—leadership and frontline activist roles in the anti-mountaintop removal movement, with self-reported motivations stemming from “a desire to keep their families, community, and natural environment safe and healthy for present and future generations.”

Barry also deploys an explicitly ecofeminist lens in her analysis of the anti-mountaintop removal movement. She illustrates that for “[w]omen . . . who organize or join grassroots efforts” in Appalachia, “[c]oncerns for human health, particularly for the young” are of extreme importance. However, women activists also “recognize links between both cultural and environmental annihilation,” and therefore “[i]n their efforts to end MTR, women environmental justice activists link local culture to the natural environment, particularly its mountains.

c. Feminist-Based Reforms to Mountaintop Removal Law

With such a complement of primary authority, legal-analytical, and critical cross- and multidisciplinary materials identified, the reformist-minded attorney may now, as Delgado and Stefancic advise, unplug from research resources entirely and engage in “the free association of ideas, policies, and social needs.” Now is the time to “turn [the] system on its side” and ask what is missing, in terms of determining how, in this scenario, feminist insights might best inspire law reform initiatives for mountaintop removal mining. Of course, the aim of this Article is not to offer comprehensive reform strategies; rather, the purpose is to engage in a tentative analysis in order to showcase the transformative potential of critical research strategies—across diverse areas of Appalachian law.

To begin, the researcher may speculate on how the law governing mountaintop removal—or even on how arguments proffered, to date, by mountaintop removal law reform advocates—may in fact perpetuate the patriarchy. For example, the feminist analyses proffered by Barry and others demonstrate that women in Appalachia share a disproportionate burden of the harms caused by mountaintop removal. In terms of deleterious health effects, women indeed may be more susceptible to

502. Id. at 63.
503. Id. at 50.
504. Id. at 41, 55.
505. Id. at 64, 116.
506. Delgado & Stefancic, supra note 3, at 328.
507. Id. at 224.
508. See Part III(B)(3)(b).
certain mountaintop removal pollutants than men (although the science is still emerging),\(^{509}\) and the birth defects demonstrably caused by mountaintop removal surely are societal harms that affect women more substantially (i.e., as women historically have been the primary caretakers of children).\(^{510}\) In the broader sense discussed above (e.g., poverty, unemployment, familial hardships, etc.), Appalachian women “suffer the harshest effects of all social ills” caused by mountaintop removal operations.\(^{511}\)

In the primary authority and legal analytical materials to date, this inequitable sex- and gender-based distribution of societal harms has not been identified as a prominent issue. But regarding primary authority specifically, where might attorneys look to implement such reforms?

For one, the EPA’s public interest review requirements for the issuance of mountaintop removal permits as associated with the pre-permit reviews\(^{512}\) could be targeted as a site for increased incorporation of such insights. Through the public interest review process, the EPA specifically has “directed its regional offices,” prior to Corps permit approvals, to “analyze and provide comment to the Corps on such issues as “the potential for disproportionately high and adverse human health or environmental effects on low-income and minority populations.”\(^{513}\) The disproportionately economic effects may be targeted as well: “The Corps regularly considers the economic ramifications of a proposal in its public interest review.”\(^{514}\) These EPA public interest directives serve as an ideal site from which to require an analysis that explicitly and comprehensively accounts for the unique harms to Appalachian women. In short, the EPA could direct the Corps to analyze the “disproportionately high and adverse human health or environmental effects on low-income, minority[, and female] populations.”\(^{515}\)

\(^{509}\). See COPELAND, supra note 321, at 17; STANDING OUR GROUND, supra note 27, at 54-55; Ahern et al., supra note 336, at 838.

\(^{510}\). See Part III(B)(3)(b).

\(^{511}\). Mountaineers, supra note 41, at 119.

\(^{512}\). See sources cited supra note 348.

\(^{513}\). Bomyea, supra note 348, at 235 (quoting Communities Against Runway Expansion, Inc. v. F.A.A., 355 F.3d 678, 688 (D.C. Cir. 2004)).

\(^{514}\). FEDERAL REGULATION OF WETLANDS, ST051 ALL-CLE 933, 995 (2012).

\(^{515}\). See also Greener Voice, supra note 40, at 87 (“Regulatory agencies could also be required to consider the distributional effects that their actions have on women and children.”); Rachel Kalman, EPA’s Mercury Cap and Trade Rule: An Environmental Injustice for Women, 13 CARDOZO J.L. & GENDER 111, 113 (2006) (“Executive Order 12,898 require[s] federal agencies to consider the effects of their programs, policies, and activities on minority and low-income populations . . . . Executive Order 12,898 formalizes the principles of environmental justice and obligates federal agencies to
The EPA also could incorporate related reforms into its analyses regarding permit vetoes under CWA § 404(c). In the last half decade, the public interest criteria based on E.O. 12,898 has been deployed by the EPA not just in its pre-permit directives to the Corps, but also “to determine when its veto authority under CWA § 404(c) should be used to block a permit.” Therefore, here too the EPA may incorporate the disproportionate health, environmental, and economic effects of mountaintop removal mining, as borne by Appalachian women, into its analysis of when a CWA § 404(c) veto is appropriate. That the EPA’s CWA § 404(c) veto power recently has been affirmed in *Mingo Logan Coal Co. v. U.S. E.P.A.* only demonstrates the strengths of this tactic.

In *National Min. Ass’n v. McCarthy*, the D.C. Circuit also affirmed the EPA’s extra-statutory guidance prerogatives, in holding that the EPA could lawfully develop interagency coordination plans with the Corps in a process not expressly authorized by the CWA. In these extra-statutory guidance functions, the EPA may direct the Corps to adopt environmental review analyses that account for disproportionate sex- and gender-based environmental harms.

In terms of contextual reasoning and consciousness-raising in Appalachia, additional strategies may involve ensuring a strong influence of personal experience in mountaintop removal law reform initiatives. Appalachian women long have been at the forefront of grassroots anti-mountaintop removal efforts—but questions remain over whether such “‘bottom-up’ perspectives” are prominent components of all legal and related socio-institutional sites for change.

Personal experience already plays a role in the public interest review

adhere to them, *yet it makes no mention of gender as a factor to be considered in agency decisions.*) (emphasis added). But of course, we also should be wary any such universalized sex- or gender-based characterization or analysis: an “integrated particularized approach” ought to be highlighted in Appalachia, which exhibits “greater complexity based on each community’s cultural, historical, and political experience and its specific needs and goals.” Yamamoto & Lyman, *supra* note 450, at 360. Rather presciently, Marx once defined critical theory as the “self-clarification of the struggles and wishes of our age.” Karl Marx, *Letter to A. Ruge, September 1843*, in *KARL MARX: EARLY WRITINGS* 209 (Rodney Livingstone & Gregor Benton trans., Vintage Books 1975) (emphasis added). Individual “struggles and wishes” of Appalachian coalfield residents must be taken into account. *Id.*


519. *Id.* at 253.

process associated with the EPA’s pre-permit directives. E.O. 12,898 “compels agencies to increase opportunities for public participation in federal decision-making, giving potentially impacted people better access to the lawmaking process before major decisions are made.”521 In accordance with this mandate, the EPA has established an Office of Environmental Justice to “oversee the agency’s implementation of the order,” which involves, among other functions, providing “low-income and minority communities in Appalachia” with an “adequate opportunity to participate in the permitting process.”522 A feminist-based approach might attempt to broaden and deepen the participation of coalfield communities—and to concurrently ensure that a full spectrum of voices is heard within the review process.

But how might such contextual reasoning and consciousness-raising approaches be further expanded in mountaintop removal reform efforts? Public health science on mountaintop removal mining is still emerging523 and successful reform efforts likely will depend on the eventual findings—but who collects such data and how? Verchick directly addresses this issue: “community activists [argue not only] for greater research into toxic susceptibility,” but they also demand “gain[ing] more control over how the evidence is collected and applied.”524 As an example in a different regional context, a California community demanded that a traditional toxic exposure study conducted on its residents be tempered with a “context-based survey” devised through “group discussion” by the residents themselves.525 In adopting such a methodology, the “community’s participation in solving the problem places them on a more equal footing with the outside researchers,” and such an active community role may “discourage researchers from viewing them as mere ‘victims’ or sources of raw data in the future.”526 Similarly, coalfield residents in Appalachia also might adopt a more proactive approach in pertinent public health research—the findings of which surely will impact future mountaintop removal reform efforts.

Such are examples of potential feminist-based reforms to the permitting scheme governing mountaintop removal and to related sites for change, like the public health complex. However, mountaintop removal mining may also be governed through “the common law of torts and property,” among other primary authority alternatives.527 How might an attorney explore

521.  Bomyea, supra note 348, at 234.
522.  Id. at 235.
523.  See COPELAND, supra note 321, at 17.
524.  Greener Voice, supra note 40, at 72.
525.  Id. at 74.
526.  Id.
527.  Smith, supra note 29, at 178.
these legal avenues of reform?

Developing strategies to seek direct compensation for economic damages—perhaps through toxic tort actions or legislative compensation schemes—are compelling options. As Verchick points out in *Katrina, Feminism, and Environmental Justice*, “Feminists... are concerned with exposure and vulnerability,” but “[v]ulnerability is a tricky concept for feminists because, in the past, women were denied many opportunities in the public sphere because of false notions of female delicacy.” Nevertheless, through strategic uses of essentialism, many “feminists correctly argue that some vulnerabilities are real and necessary to take into account.”

Verchick then introduces a rudimentary calculus illustrating how economic compensation is appropriate for environmental harms suffered disproportionality by women, given the common sense dictates of distributive justice.

If women are indeed suffering more health and economic harms, justice demands that they be compensated. “$H = A + E + V$ where $H$ is “environmental harm,” $A$ is “agent,” $E$ is “exposure,” and $V$ is “vulnerability.” Neither feminists nor environmental justice advocates put the idea in such formulaic terms, but both pay close attention to harmful agents, exposure, and vulnerability. Both kinds of activists are concerned with identifying agents of harm and demanding accountability from actors that create them.

In applying this calculus to mountaintop removal, potential agents include the mechanisms through which health and economic harms are wrought on coalfield communities (e.g., toxins released during the mining process), exposure as the coalfield communities’ various forms of damages suffered from these harms, and vulnerability in part relates to women’s increased susceptibility to many such forms of damages. Justice may

529. *Katrina, supra* note 467, at 792–93.
530. *Id.* at 793.
531. *But see* McLeod-Kilmurray, *supra* note 488, at 144–45 (“Feminist jurisprudence emphasizes how the law, its processes and creators misunderstand and undervalue the kinds of harm women experience... [Existing law] emphasizes individual and pecuniary harms while failing to ‘see’ collective and non-pecuniary harms.”).
532. *Katrina, supra* note 467, at 792.
533. *See* Part III(B)(3)(b)
then demand imposing economic accountability on the actors responsible for these harms: mountaintop removal operators. As Verchick states: “This emphasis on compensatory liability echoes the sentiment of the early feminist Mary Wollstonecraft that ‘[i]t is justice, not charity, that is wanting in the world!’”534

In considering more transformative strategies, the core tenets of ecofeminism also might assist in radically “imagining new worlds” of mountaintop removal reform—in terms of both ending mountaintop removal mining and in pursuing strategies of post-coal Appalachian societal reconstruction, which, in the end, may be one in the same issue.535

As an example of such a “re-visioning” strategy in another context, Delgado and Stefancic posit: “what if one imagined a world where the duty to make good for old injuries increased, rather than decreased, over time[?]”536 One may begin asking similar such novel questions in “re-visioning” the law governing mountaintop removal mining.537

Ecofeminism aims to “simultaneously us[e] the common goals of saving nature and ending oppression” to effect progressive change.538 Much in line with the key critical research methodologies outlined by Delgado and Stefancic, “[e]cofeminism can improve environmental law by proposing alternative conceptual frameworks.”539

In the context of mountaintop removal mining, such legal reconceptualization efforts may begin with an examination of how compound oppressions associated with the mining industry (i.e., the common domination of nature, women, minorities, low-income populations, non-human animals, and other subordinated groups) have not been sufficiently addressed in a holistic sociolegal fashion.

Reform efforts might highlight the connections among these multiple forms of domination at work in mountaintop removal mining—and then “uncover their common systemic causes.”540 Indeed, any law reform efforts that fail to uncover—and to then account for—such common systemic causes may be “at best incomplete and at worst simply inadequate.”541

534. *Katrina, supra* note 467, at 792 (quoting MARY WOLLSTONECRAFT, A VINDICATION OF THE RIGHTS OF WOMEN 71 (1792) (Carol H. Poston ed., 1975)).


536. *Id.*


538. *Greener Voice, supra* note 40, at 60.


540. *Id.* at 136.

541. *Id.* at 137 (quoting Karen J. Warren, *The Power and the Promise of Ecological Feminism* 12 ENVTL. ETHICS 125 (1990)).
The dominant patriarchal and liberal paradigms that undergird the natural resource extraction industry surely constitute such common systemic harms in Appalachia. Is it so surprising the paradigmatic forces of Westernism simultaneously drive such widespread acts as the wholesale poisoning of low-income coalfield communities, a disproportionate burdening of Appalachian women, the obliteration of Appalachian ecosystems, and the other devastating societal and ecological harms wrought on the region as a whole? Perhaps not. Therefore, in Delgado and Stefancic’s terms, the question becomes: can one imagine a world in which mountaintop removal mining reform encompasses the *common systemic causes* at work in the Appalachian region? What might such reforms entail?

It seems likely that deep reforms of this nature will require a radical social and economic restructuring of Appalachia—based largely along ecofeminist lines. Hearteningly, as Barry reports, an overarching vision of such reforms, already shared by many women activists in Appalachia, is aptly characterized as an ecofeminist one. That is, “[w]omen environmental justice activists,” in fighting the coal industry in Appalachia, have provided “an alternative vision that understands and critiques” the excesses of late capitalism—and its systemic forms of subordination. Such activists “in West Virginia promote living economies through sustainable development of the area’s renewable natural resources,” which may be defined, in large part, by “co-ownership and coproduction, on sharing and participation.”

Through pursuing such transformative ends, any egalitarian socioeconomic and eco-political transformation, such as that advocated by ecofeminism to be possible, both individuals and institutions need to shift away from overvaluing exclusively white, male, and masculinized attributes and behaviors, jobs, environments, economic practices, laws and political practices, in order to recognize and enact eco-political sustainability and ecological genders.”; David Pepper, Eco-Socialism: From Deep Ecology to Social Justice 218-22 (2002); Patricia E. Perkins, Feminist Ecological Economics and Sustainability, 9.3 J. of BioECON. 227, 228-39 (2007); Mary Mellor, Ecofeminist Political Economy 1.1 Int’l J. of Green Econ 139, 145-48 (2006); For concrete Appalachian reform proposals to date see Patrick C. McGinley, Collateral Damage: Turning A Blind Eye to Environmental and Social Injustice in the Coalfields, 19 J. EnvTL. & SUSTAINABILITY L. 305, 414-15 (2013) (“[Appalachian revitalization efforts include] a proposal to create a permanent mineral severance tax trust fund and suggestions for growing ‘green collar’ jobs through creation of a sustainable forestry industry . . . . [in addition to] economic diversification in ‘the arts, education and workforce development, entrepreneurship, environmental restoration, health and community-based services [etc.] . . . ‘” (quoting Randal A. Strobo, The Shape of Appalachia to Come: Coal in a Transitional Economy,
a more just and eco-viable future may be possible for the region.

V. CONCLUSION

For over a century, dedicated grassroots activists, legal reformers, and ordinary citizens have struggled to free central Appalachia from the natural resource extraction industry and its seemingly eternal pact with the region’s captured ruling elites. Much good work has been done, but the purpose of this Article is to bring to light a novel set of critical methodologies that may assist in ushering in a new era of change and renewal.

The manner in which our laws and legal discourses are organized, accessed, and analyzed has a vital impact on research outcomes. As outlined in this Article, the research paradigm by which such outcomes are reached is defined wholly by insidious systems of constraint. In examining—and transcending—such systems, and in adopting approaches that maximize creative law reform potential, a great deal may be accomplished by the reformist-minded attorney.

This Article puts forth just one such version of a reconstructed legal research process, and an accompanying illustration of how it might be used to shape new reforms. However, the overarching aim is for activists and reformers to creatively engage with, critique, expand upon, and ultimately deploy such critical legal research strategies to effect meaningful change in Appalachia—and beyond.