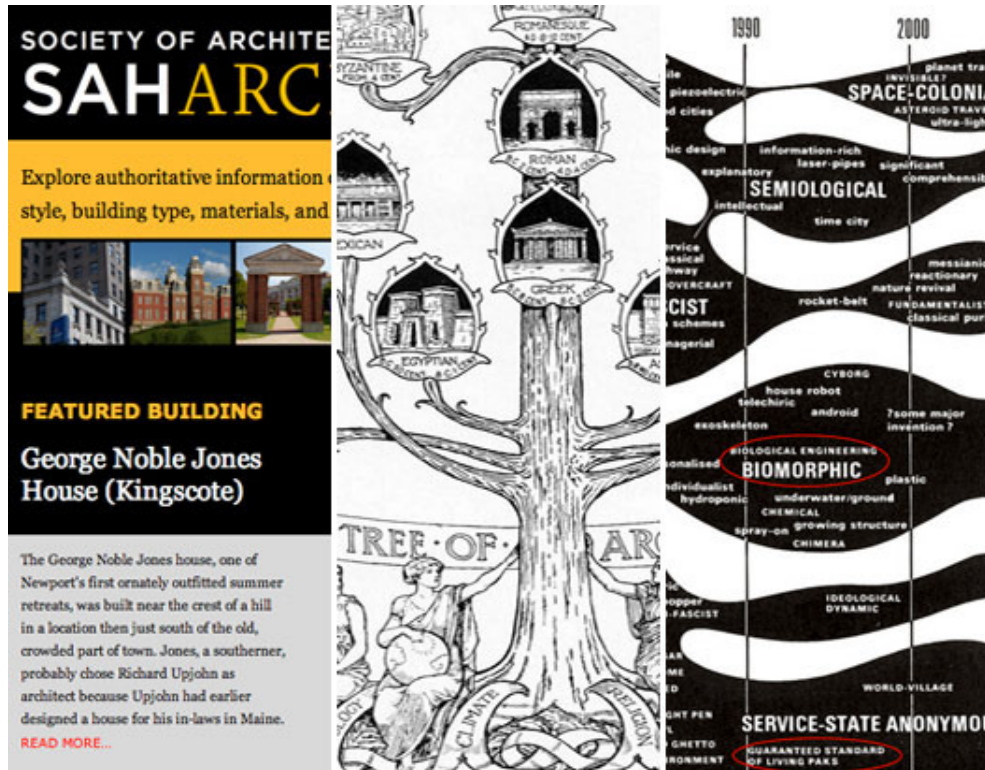




Building Data: Field Notes on the Future of the Past

By Gabrielle Esperdy

September 23, 2013



1. Wilderness in search of metadata

After decades of lurking in the shadows of the digital realm, metadata is finally facing the glare of the media spotlight, from revelations about National Security Agency surveillance to disclosures of Wikipedia's woman problem to discoveries of privacy breaches on Facebook. At first glance, these disparate scandals don't seem to have a whole lot to do with metadata: at Facebook, the company was sharing member preferences and activities with advertisers; at Wikipedia, site editors were changing classifications for American novelists, separating out those who also happened to be women; at the NSA, analysts weretracking phone records, looking for patterns in who called whom. But in all cases, it was the use and abuse of metadata — *structural* metadata that describes how data is organized into hierarchies and categories, and *descriptive* metadata that describes the content of the data — that was at the heart of the controversy. In fact, structural and descriptive metadata — *data about data*, to put it simply — are critical to our networked lives. Searching without metadata would be like following Dr. Seuss on a *dérive* down a rabbit hole. It might be fun for a while, but when information is the quarry, seeking without finding has its limits (notwithstanding the allure of full text strings).

Whether we are wondering which movie won the best picture Oscar in 1965, how frequently the Airtrain runs to JFK, or when the English edition of *Vers une architecture* first appeared, metadata helps to guide our search and to aid in discovery. And yet, though we spend an increasing amount of time searching for information, once we've got it, we rarely think about how we found it. Few of us contemplate the algorithms when what we're after are the answers: *The Sound of Music*; every 3 minutes; 1927.

Yet while metadata is finally getting attention, it's still not getting much respect. It remains the stepchild of authorship, a technicality we assume others will handle — namely, all those indexers, librarians and cataloguers who've been engaged in something akin to metadata creation for a couple of centuries (think Library of Congress Subject Headings, the *New York Times* Index, or the Avery Index to Architectural Periodicals). If in earlier centuries — in the print-only era — that division of labor made sense, today it is an obsolete holdover that should be challenged by every 21st-century author; for in the digital era the creation of metadata is essential authorial territory. Here, of course, the concept of *authorship* requires qualification: as Roland Barthes very nearly predicted (and numerous critics have observed), the author is now a producer of diverse content (clearly *text* is a wildly inadequate term) in diverse media and formats, distributed across diverse platforms. [1] To find all this rapidly proliferating content has become an ever more complex task, and for those of us who also produce content in order to generate knowledge, the task is even more fraught as we use our multiple devices to sift through tens of thousands of results that may or may not be authoritative, verifiable or even remotely useful, much less organized according to our own research interests or priorities.

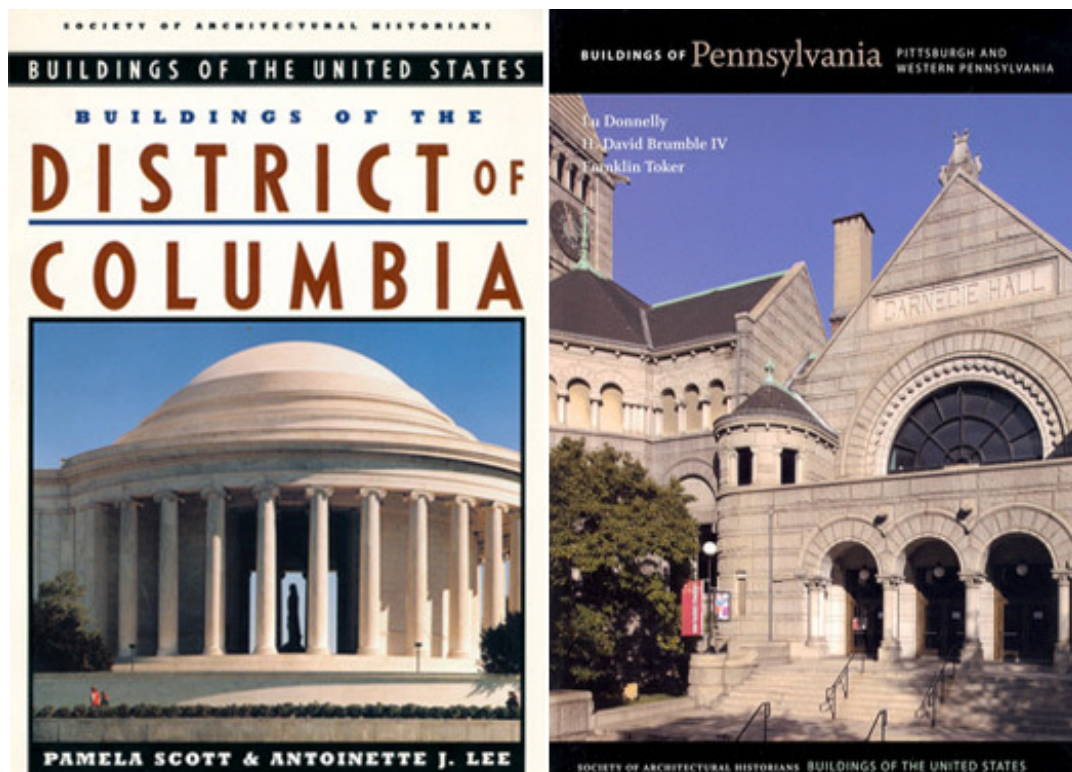
Almost two decades ago — still early in the digital age — Nicholson Baker discovered that finding aids — like the index cards in a catalogue or the entries in a database — whether printed or computerized, were not neutral (though Barthes could have told him this two decades before that). Baker argued that cataloguing itself could, and should, be understood as a genuine contribution to scholarship; he also argued that the catalogue cards themselves contained information important in its own right, regardless of the content they directed us to, and taken together constituted a potentially significant historical record. [2] Back in the '90s most of us missed this crucial point (distracted as we were by Baker's main narrative: the last days of the physical card catalogue); and most of us are still missing it today. Though many experts accept cataloguing and metadata as roughly synonymous, and though most of us engage in cataloging-cum-metadata when we categorize our blog posts, tag our photos on Flickr, and keyword our journal articles for scholarly databases like Academic Search Premier or JSTOR, rarely do we think about metadata or its creation as part of our intellectual practice. [3] But what if we did? We'd discover that metadata has been with us for far longer than we've realized, concealed in the taxonomies and classifications we've been using to structure disciplinary knowledge since at least the Enlightenment. Even if we've dedicated our intellectual practices to upending the canon — with its fusty taxonomies and rigid classifications — we still need the schema, if only to reject it.

In "The Great Gizmo," Reyner Banham offers a powerful evocation of a mythic pioneer: "The man who changed the face of America had a gizmo, a gadget, a gimmick — in his hand, in his back pocket, across the saddle, on his hip, in the trailer, round his neck, on his head, deep in a hardened silo." Almost half a century on, we prefer more nuanced portraits of frontier settlement and cold war brinksmanship, but Banham's image remains deeply appealing, and it's tempting to carry it forward into the present digital/machine age of iPhones and Google Glass: *a gizmo on her face*, etc. But Banham understood that the gizmo's true significance, and perhaps most lasting impact, had less to do with size and portability — though these were key gizmo attributes — than with the distributive culture the gizmo generated, and ultimately required. The Colt Revolver, the Franklin Stove, and the Evinrude Outboard Motor are

undeniably great gizmos, but they achieved this greatness, at least in part, because folks in a "trackless country" knew how to find them. Which is why Banham calls the Sears Roebuck catalogue "one of the great and basic documents of U.S. civilization." [4]

Banham isn't just interested in how gizmos make history; he's also interested in using gizmos to *do* history, "gizmology" as discipline and method. What's key here is that Banham understood that it wasn't enough to study the gizmos themselves, no matter how satisfying they might be as objects or artifacts; nor was it enough to study their transformative effects, whether social, economic or technological. For Banham, it was also necessary to study the networks in which the gizmos existed. However much he appreciated the Sears catalogue as a compendium of gizmos, what really caught his attention was the gizmo information that Sears' "Big Book" contained: the categories, descriptions, prices, shipping weights, warehouse locations, and so on.

From a 21st-century perspective, this looks an awful lot like analyzing gizmo-metadata, though for Banham it was simply a no-nonsense way to confirm historical hunches. If Sigfried Giedion had already argued that the factory-made nail was as critical to the development of the balloon frame as dimension lumber, it was Banham's scrutiny of the gizmo-info in the Sears catalogue that enabled him to determine how the balloon-frame house ultimately replaced the log cabin in western regions beyond Chicago: despite their weight, the wire nails were cheap enough to be shipped in bulk, in barrels and bags, to the scattershot settlements of the prairie and the plains. [5] Beyond the facts, there's a historiographic lesson here, one that might add some methodological swagger to the contemporary gizmologist's work because, as Banham shows, *metadata matters*.



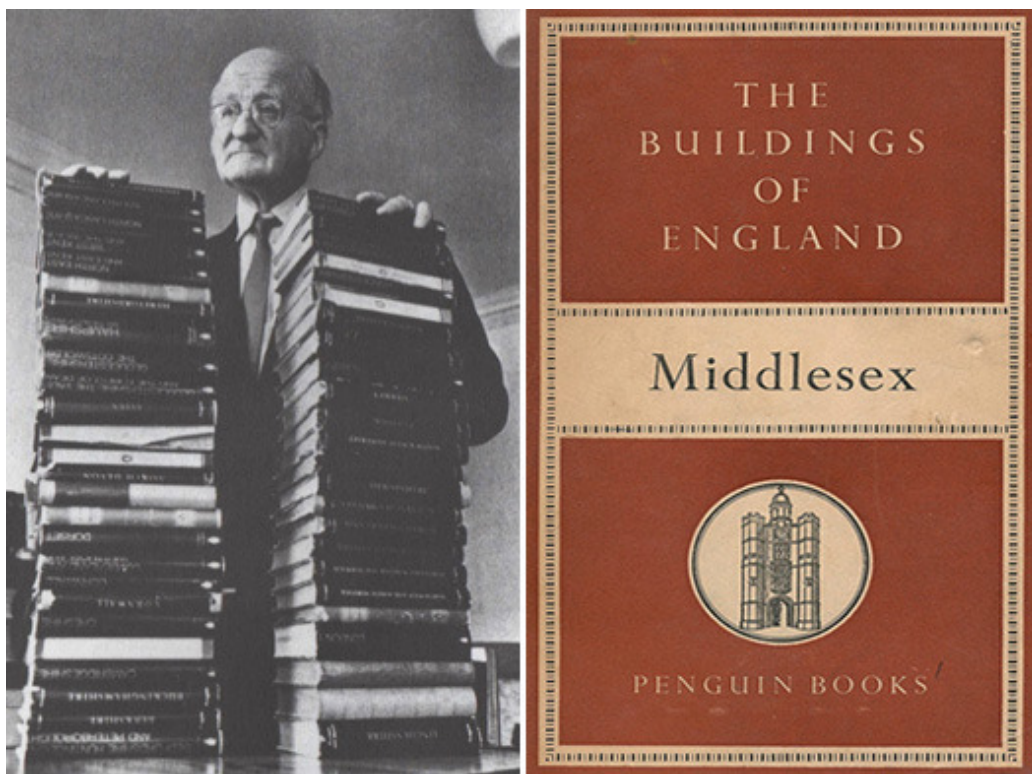
Buildings of the United States, series from the Society of Architectural Historians, early and later print editions.

2. The historians who changed the face of America

The web is not the wilderness, but it can be difficult to find your way, even within a single site, as I've discovered since I started working with a group of dedicated historians, editors and programmers to transform the *Buildings of the United States*, a multi-volume book series, into SAH Archipedia, a searchable online resource. Sponsored by the Society of Architectural Historians in partnership with the University of Virginia Press, the first *BUS*books appeared in the early 1990s and SAH Archipedia went live in 2012. But both projects are part of a large-scale research and publication program — embracing all 50 states and the District of Columbia — that was conceived a half century earlier. That's a long gestation, even by academic standards; in this case it's had positive consequences, allowing methodology and technology to catch up with the project's scholarly ambitions. [6]

Some history is in order. Before he became the first president of the SAH, in 1940, Turpin Bannister, then a professor at Rensselaer Polytechnic Institute, worked for the Federal Writers Project, editing content for the New York State volume of the *American Guide Series*, which sought to document the country's cultural landscape. Once at SAH, Bannister was instrumental in adding a provision in the society's by-laws allowing for the future sponsorship of a U.S. guidebook series. For Bannister, this would allow the Society to make "an important contribution ... to American culture [by] fostering and interpreting a national architectural heritage too long neglected." [7] Comparable calls to redress this neglect appeared repeatedly in the first issues of the Society's journal. In 1941, the historian Henry-Russell Hitchcock lamented the architectural "myopia" that dominated discussions in the U.S., rendering any building "posterior to the Greek Revival" as lacking historical significance (the tyranny of taxonomy!). For the co-author of *The International Style*, who was committed to establishing the American lineage of European modernism, and who had already seen "major monuments of modern architecture" like H.H. Richardson's Marshall Field Warehouse and William LeBaron Jenney's Home Insurance Building "wantonly destroyed," this shortsightedness was galling. And while Hitchcock commended the early work of the Historic American Building Survey (a New Deal program run by the National Park Service), he argued that his profession should devote itself to "research in American architectural history," not simply to further scholarship but to "perform a valuable civic service." [8]

Maybe it was the view from the home front, but the following year, as America entered World War II, Roger Hale Newton — author of a monograph on the (not-quite-posterior-to-the-Greek Revival) architects Town and Davis — echoes Hitchcock's civicism with a passion bordering on jingoism. Making many references to freedom and the war, Newton describes the U.S. historian's work as both a "privilege" and a "duty," and urges his colleagues to accept the "pressing challenge of our native American culture." To Newton this meant repudiating a predominant Euro-centrism, and its "intellectual and aesthetic snobbery," and embracing the nation's industrial and commercial "fecundity" and the resulting "orgiastic bonanza" of architecture and design. Historians needed to look unashamedly — "without fear of not measuring up" — at "a new kind of American beauty," in order "to sense it, to describe it, to analyze it, to define it, to depict it, to record it, and to perpetuate it." If this meant forging a new frontier, Newton was more than willing to light out for the territory; by the end, when he calls for us to "produce something truly original and autochthonous," it seems clear he's talking as much about a new American architecture *history*, as he is about a new American architecture. [9]



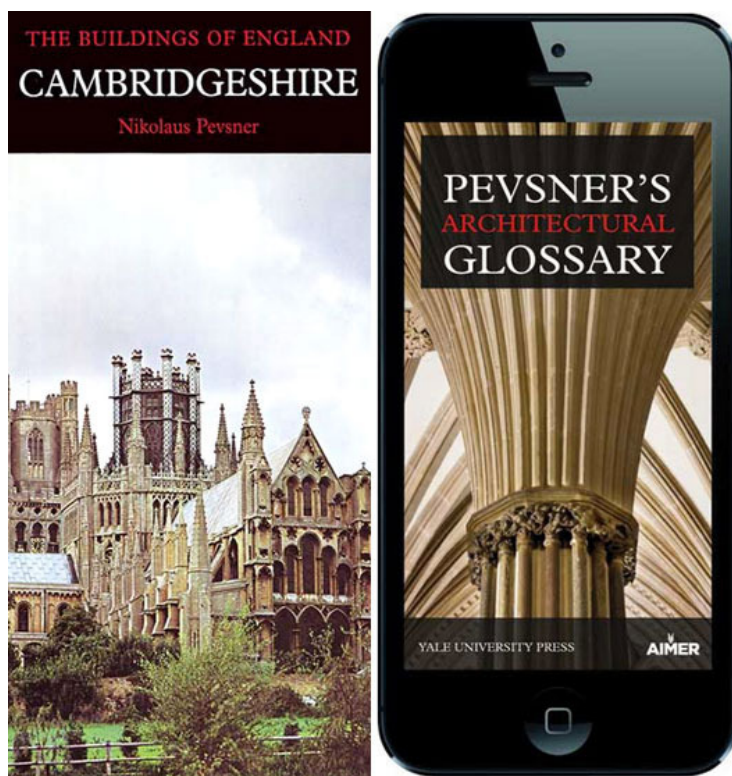
Left: Nikolaus Pevsner, with *The Buildings of England*, his celebrated series of guidebooks to English architecture. [Image: Penguin Books] Right: One of the early editions, ca. 1950.

Two decades later, as Lyndon Johnson was rolling out his Great Society agenda, the SAH was still advocating for a comprehensive U.S.-focused research agenda, notably in a 1964 report prepared in support of the establishment of the National Endowment for the Arts and the National Endowment for the Humanities. In the report the SAH argued for "building up concentrations of architectural knowledge," particularly work dealing with "the face of America — the physical appearance of cities and of the land." (Remember the report was about *federal* funding for *national* endowments.) And that face of America, the authors noted, was changing rapidly, due to "Urban Renewal programs" and "what Lewis Mumford calls 'the soiled banner of Progress.'" As a result, American architectural history faced a crucial challenge: its "primary raw materials [were] a rapidly diminishing resource." This destruction, recent and imminent, allowed the SAH to emphasize urgency, rather than scholarly deliberation, in its main recommendation: "directed surveys" of individual buildings and entire communities, with the results distributed through various types of publications including "a multivolume encyclopedia" and "regional architectural studies for the United States comparable to Pevsner's British county series." [10]

It's not hard to imagine Lyndon Johnson's reaction to news that a country one-fifth the size of the Lone Star State had a book series devoted to its buildings, while the U.S. had none: hell, Texas alone has 254 counties compared to England's 48. Still, citing Nikolaus Pevsner was hardly a throwdown — though by the time the distinguished German-born, British architectural historian turned up in Philadelphia to celebrate the Bicentennial, he was ready to issue a challenge of his own. In accepting an honorary degree from the University of Pennsylvania, Pevsner proclaimed 1976 an auspicious moment to create a stateside parallel to his recently completed, 46-volume *Buildings of England*.

Penguin Books published *The Buildings of England* between 1951 and 1974 with Pevsner as the sole author of more than 30 of the first 46 volumes, covering each of England's ceremonial counties, plus

London. [11] Frequently described as a survey or a gazetteer, the *BoE* were above all guidebooks. If, as Pevsner contended, his ambition was "to personally visit, survey and criticize every building of interest in England," then he wanted his readers to do the same. Thus the books, at least early on, were small and lightweight: bound in paper, sized to fit in the pocket of a mackintosh, intended to be used in the field. [12] The same could be said of their contents: entries were brief and to the point, containing formal analysis based on empirical observation that reflected Pevsner's German art historical training; so while Pevsner was sometimes opinionated, his opinions tended to focus on questions of style and period as manifest in the building at hand. And since the books were aimed at the general public, each volume included a glossary of specialized terms. The *Pevsner Guides*, as they came to be known, did not introduce the idea of architectural touring to the British public, but they certainly fostered a broad-based appreciation of English buildings. By some accounts, in popular perception at least, having a building included "in Pevsner" was just as important as being listed by English Heritage. Pevsner, a Jewish refugee from Nazi Germany, viewed the project as something of a public duty, and the series played no small role in his being knighted in 1969 "for services to art and architecture." [13]



Left: One of the volumes in the current edition of The Buildings of England, now the Pevsner Architectural Guides. [Image: Yale University Press] Right: Pevsner Glossary App. [Image: Yale University Press]

Thus, it was Sir Nikolaus Pevsner, CBE, who prodded architectural historians in the U.S. to put up or shut up on the occasion of the Bicentennial. The effect, apparently, was galvanizing: by 1979 *Buildings of the United States* had the approval of the SAH board of directors; by 1984 it had its first editor-in-chief (Adolph Placzek of Avery Library); by 1993, it had four volumes in print (Alaska, Iowa, Michigan, and D.C.). [14] Since then, SAH has published 17 volumes, most recently *The Buildings of Texas*; currently, under the guidance of Karen Kingsley, roughly the same number are in various stages of research, writing, editing and peer review; planning and fundraising are underway for the remaining states.

Like Pevsner's *Buildings of England*, every *BUS* book provides close readings of significant buildings, but unlike Pevsner, who favored what Paul Kennedy has called a "churches and castles approach," *BUS* authors embrace a much broader notion of "significance" in order to represent the totality of the American built environment, this country's "dynamic heterogeneity" vs. "the national integrity" of England, as *BUS* founding editors described it. [15] In practice, this means that in addition to churches and capitols (there aren't many castles in America), one also finds mills and mansions, diners and department stores, barns, bungalows and bridges, etc. *BUS* authors describe and interpret exteriors and interiors, major programmatic elements and minor architectural details, visible materials and hidden construction, considering each building as a discrete structure with its own inherent merit or interest. Eschewing conventional high-to-low hierarchies predicated on type, style or designer, each building is momentarily in the spotlight, its only marker of special significance being, perhaps, the length of the entry. In this respect, a parking garage may garner as much attention as a museum; an anonymous period-revival residence might be on par with a Frank Lloyd Wright house.

Colonial brick piers support the pedimented portico, and a large pediment in the pediment marks the front entrance of the three-story Postmodern addition of 1989 to the College of Engineering Building. This addition includes aluminum windows in strings, recessed within bays of orange-red brick. Orange brown brick walls, punctuated with royal blue ceramic tile and trim, complete the colorful exterior. The addition links to the original building on the north and east to form a quadrangle.

IN18 Islamic Center of East Lansing
1979, Freeman, Smith and Associates, 920 S. Harrison Rd.
Muslims among the MSU student body requested their own house of worship. The modern mosque fits easily and compatibly with its neighbors—the University Lutheran Church and the University United Methodist Church. The prominent, stylized, onion-shaped dome on the three-sided minaret clearly defines and expresses the historic origins of the religious group it serves. There is no added decoration on the exterior to detract from the simple function of prayers required five times a day. The Islamic Center includes both a mosque and an Islamic school.


IN19 Michigan Medical Society Headquarters Building
1976, Minoru Yamasaki, 1991 atrium connector, Yamasaki and Associates, 120 Saginaw St.
The modern two-story precast-concrete and steel building with glass curtain walls is headquarters for the Michigan Medical Society. Slender columns support the vaulted roof of stilted arches. In its terraced landscape the building projects a light and airy silhouette and floating quality. Yamasaki explained the intent was to create a serene and inviting building to express the idealism and humanity of the medical profession.

OKEMOS
IN20 Goetsch-Winkler House
1939, Frank Lloyd Wright, 2410 Hales Rd.
This house represents Frank Lloyd Wright's venture of the 1930s and later into a house design affordable for people of moderate means. The Usonian house shows the usual Wrightian concern for the house as shelter in harmony with nature. It was constructed for Alma Goetsch (1901–1968) and Katherine Winkler (1898–1996), faculty members of the art department at Michigan State University. Originally designed to be one of seven houses for university faculty clustered around a communal farm on property to the southeast of the campus, the Goetsch-Winkler house was the only one executed (although on a different site than the proposed cluster location). Funding fell through for the others.
Constructing a house of moderate cost was solved here by conceiving life in single-story terms. The house rests on a concrete slab of the art department at Michigan State University. Originally designed to be one of seven houses for university faculty clustered around a communal farm on property to the southeast of the campus, the Goetsch-Winkler house was the only one executed (although on a different site than the proposed cluster location). Funding fell through for the others.
Constructing a house of moderate cost was solved here by conceiving life in single-story terms. The house rests on a concrete slab

spectacular multi-talented twin stair and bell towers crowned with cupolas, between which is placed a recessed entrance supported by one-story polished Doric stone columns under a flat lintel with a Doric frieze. Above the entrance in the gabled center section is a circular stained glass window attributed to Tiffany Studios. Here retained the brick side walls of the building, but embellished their planters with Ionic capitals, enlarged the round arched windows, and installed a new detailed entablature. From the main entrance, stairs rise to the auditorium, in which three banks of oak pews are arranged around a pulpit. The sanctuary is fitted with beautiful oak woodwork crafted in the Renaissance Revival style. Choir and meeting rooms are located underneath the auditorium.

MANCHESTER AND VICINITY
WA17 Italianate Houses
c. 1853–1857, 206, 214, 220, and 222 Ann Arbor Rd.
In southeastern Michigan the Italianate style is well represented by several houses on Ann Arbor Road as it enters Manchester from the west. Built between 1853 and 1857, they were dwellings for prosperous ironpeople in this thriving agricultural village established two decades earlier. All are brick on rubble foundations and several have limestone window lintels. Basically cubical in form, the houses have strongly detailed brackets at the eaves and some have porches with classical details. The brick, produced locally, is a warm orange-red in color and is remarkably consistent in size and texture. It can also be found in the commercial buildings on Manchester's main street. Like the houses, these are exceptionally well preserved.
Manchester's houses derive from several sources. They certainly owe something to Andrew Jackson Downing's *The Architecture of Country Houses* (1850). Other important pattern books for Manchester's builders were Henry Cleveland's *Villages and Farm Cottages* (1856), which shows two house plans similar to those in Manchester, and John Ritch's *The American Architect* (1849), which contains instructions for masonry, bracket details, and window designs. Downing stated that the villa style symbolized a tranquil domestic life and the good moral character of its owners, a contention that certainly contributed greatly to its widespread popularity in pre-Civil War America. Given the building technology of the time, the villa was reasonably simple to construct and with a few appropriate details could provide a note of sophistication in a country that was still largely rural. Good examples of Italianate houses can be found throughout southeastern Michigan, but these in Manchester are particularly fine.

WA18 Raab Farmstead
1891 and later, 12665 Bemis Rd., 6 miles east of Manchester
The Raab land and farmstead have been in the family since 1890. Like many of the families in this area, the Raab family is of German origin. The farmland includes part of a small lake, Lake Columbia. The farm buildings are sited to take best advantage of the scenic location. Built in 1891, the farmhouse is set back from and faces Bemis Road. The portion visible from the road is constructed of dressed stone collected on the site. As is typical of many farmhouses, various additions were made. Sometime before 1940, the first addition of a brick masonry chimney and kitchen was built. It was followed by the addition of a wood frame porch and storerooms.
In its prime, the farm complex included the farmhouse, big barn, horse barn and carriage house, windmill, smokehouse, granary, ice house, corn crib, tool shed, and privy. Most of these structures remain on the site today. Together, they exemplify all the buildings needed to run a sufficiently viable farm to satisfy a regional or national market.
The farm layout is linear, a configuration more efficient for greater mechanization in farm operations following the Civil War and into the turn of the twentieth century. The buildings are aligned along an axis road that runs around the big barn. Its northern elevation faces Bemis Road. The inscription under the gabled roof, "1913, Lake View Farm, T. A. Raab," identifies the modifications to the barn on this date. Its southern and smaller hall,



IN20 GOETSCH-WINKLER HOUSE

INGHAM COUNTY 299

WASHTENAW COUNTY 353

From the paper edition of *The Buildings of Michigan*, part of the *Buildings of the United States*, published by the Society of Architectural Historians.

Of equal importance is the way *BUS* authors situate buildings locally, regionally or nationally. As entries accumulate — building after building, page after page — what emerges is akin to a finely rendered group portrait — of a street, a neighborhood, a town, a county, and, finally, a state in its entirety. Paul Cret's Folger Shakespeare Library in the District of Columbia, for example, is presented not only as an exemplar of the modernized Beaux-Arts of the 1920s, but also as building in an urban context, one that "mediates between the monumental Capitol complex and the domestic neighborhood of Capitol Hill." Likewise, the Old Slater Mill in Pawtucket, Rhode Island, is described by William Jordy as typical of the 18th-century textile industry and also as the "fountainhead" of early U.S. manufacturing; Jordy's analysis

extends also into the 20th century, considering the mill within a cultural-touristic landscape created by postwar urban renewal, which rendered it "a precious object spotlighted in its urban vitrine." [16]

As a characteristic of traditional preservation, the "vitrine effect" is problematic because it can limit or sanitize our understanding of the physical context of early architecture. But as a paradigm for methodology, it can help us think through the ways in which the *BUS* volumes simultaneously display and categorize the architectural history produced for the series. Indeed, one of the pressing concerns in the development of SAH Archipedia — both as a database for history and as a tool for the production of new scholarship — was to expose and analyze the series' organizational and hierarchical structure. For the programmers, this structural analysis was relatively straightforward; they were creating this single resource. But for the historians, the structural analysis was only the beginning — it was clear from the very start that we were creating something bigger than just this one digital resource, something that could shape the future of the discipline. It was also clear that before we could take on the discipline's future, we first had to reckon with its past, extending our structural analysis beyond a database of historical architecture to the foundations of architectural history.



Left: Banister Fletcher, by London Stereoscopic & Photographic Company; carbon carte-de-visite, 1870s–1880s. [Image: © National Portrait Gallery, London, via a Creative Common license]. Right: *A History of Architecture*, ca. 1896.

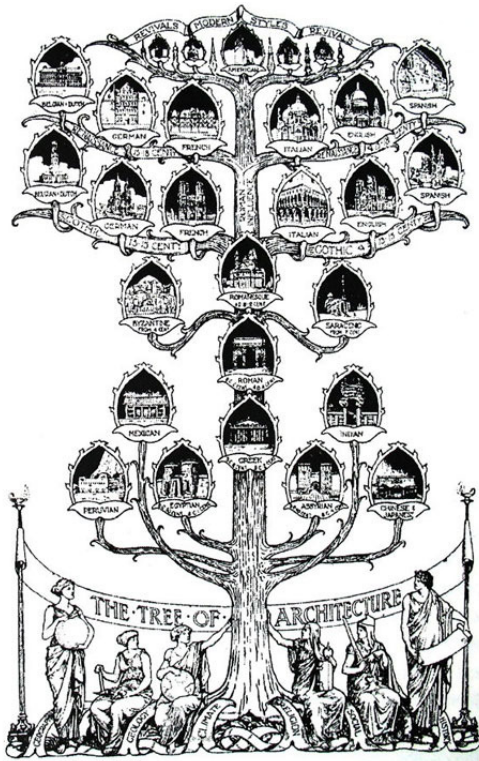
3. Architecture is not a tree

Here I will risk oversimplification and argue that those foundations can be usefully summarized by a single image: the "tree of architecture, showing the main growth or evolution of the various styles," probably the most famous of the thousands of illustrations in Banister Fletcher's *A History of Architecture on the Comparative Method*, first published in 1896 and certainly one of the most influential illustrations in the field. [17] The roots of Fletcher's tree are derived on one side from

topographical factors, including geography, geology, and climate, and on the other from broadly cultural factors, including religion, society and politics, and history. From these various roots grows a sturdy trunk with selective stylistic branches oriented both east (Assyrian, Indian, and Chinese and Japanese) and west (Egyptian, Mexican, and Peruvian). Unsurprisingly, the tree's main evolutionary stem (labeled "Roman Influence") is ancient classicism as it travels from the Greek to the Roman to the Romanesque until the outgrowth of the Gothic in the 13th century and the efflorescence of the Renaissance in the 15th.

In successive editions, while the historical reductionism and Euro-centrism remained intact, the tree grew and flourished, sprouting new branches to accommodate historical revivals and bearing new fruit to embody formal and typological developments. These culminate, finally, in Daniel Burnham's Flatiron Building of 1902, an early New York tower that Fletcher labeled simply "American" — as if this exceptionalist confluence of geography and culture required no further explanation. Though Fletcher claimed that his tree diagram was "suggestive only," it was recognized as a key representation of the canonical — and hierarchical — stylistic taxonomies as taught in the English-speaking world; it would not be eliminated until the comparative history's 17th edition of 1961. As David Watkin wryly observed, in *The Rise of Architectural History*, Fletcher's tree "laid the fruits of 19th-century architectural scholarship in conveniently potted form at the feet of the 20th-century architecture student." [18] Indeed, as late as the mid-'90s, Fletcher's evolutionary tree was still being circulated in required surveys taught in some professional schools of architecture, even though a new generation of scholars viewed his comparative method, and the classification schemes on which it relied, as increasingly inadequate, if not entirely obsolete when applied to the architecture of the recent past.

Fletcher's tree began to wither with the rise of modernism — a movement difficult to depict as a direct outgrowth of its stylistic branches; and yet the formalist methodology continued to thrive — even, in fact, within the modern movement, as modernist historiography makes abundantly clear. Although architects like Walter Gropius and Hannes Meyer rejected the very idea of style as part of their avowal of a functionalist credo, condemning what they regarded as modernism's "fashionable" and "formalistic" (read: stylistic) assimilation, the movement's early historians took a different tact, most famously in Henry-Russell Hitchcock and Philip Johnson's 1932 *The International Style*. For Hitchcock and Johnson, the "idea of style" was not anathema at all; it was a way to resolve the dilemma of imitation implicit in historicist revivals and to claim the mantle of authority that once belonged (in the west) to Classicism and the Gothic. [19] Seemingly at the opposite extreme, Sigfried Giedion dismissed the International Style as a harmful "epithet" that reduced building design to mere "form characterization." But when Giedion argued that style is "a word we should refrain from using to describe contemporary architecture," euphemistically offering "tradition" as an acceptable substitute, we sense that he is protesting too much — for by the mid-20th century modernism was so stylistically entrenched that its formal boundaries were being extended in all directions, from the neo-expressionism of Eero Saarinen, to the neo-liberty of Ernesto Rogers, to the New Brutalism of the Smithsons. [20]



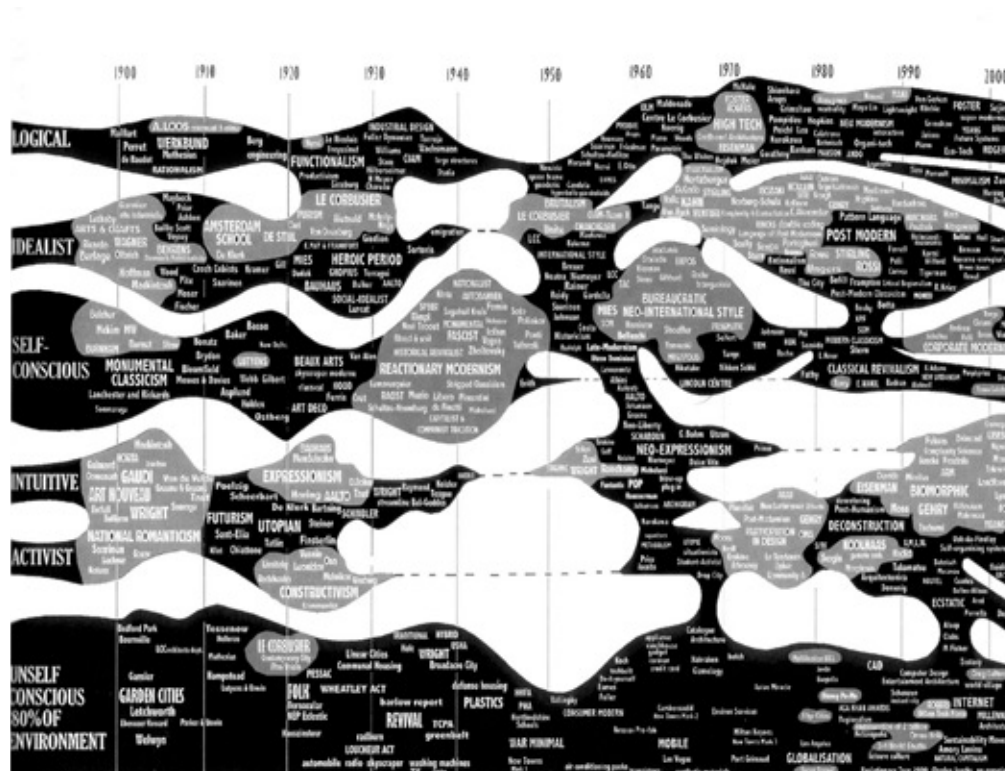
The Tree of Architecture, from *A History of Architecture on the Comparative Method*, by Sir Banister Fletcher, ca. 1896.

In *Buildings of England*, Nikolaus Pevsner deployed the concept of style — and especially the stylistic terminology of Classicism and the Gothic — to make the formal qualities of buildings legible and comprehensible to general readers. [21] But even before his guidebook series, "style" for Pevsner was a convenient way of making sense of the zeitgeist of the modern era; in *Pioneers of Modern Design* he luxuriates in its use, even when articulating his polemical intentions: "to prove that the new style, the genuine and legitimate style of our century, was achieved by 1914." [22] It is Pevsner more than anyone who successfully applies earlier classification schemas to 20th-century architecture by tracking the evolutionary growth of modernism through British Arts & Crafts, continental Art Nouveau, iron and steel technologies, and the German Bauhaus (or, in the book's famous subtitle, from William Morris to Walter Gropius). Pevsner begins *Pioneers* right where Banister Fletcher leaves off — with the influence of John Ruskin on 19th-century English art and design — and he closes his *Outline of European Architecture*, the best-selling paperback that established his reputation as a popularizer, with an argument for modernism as the 20th century's "genuine and independent style," one "adapted to mass production" because it was intended "for masses." [23]

Like Fletcher, Pevsner focuses on style because he is chiefly interested in "buildings designed with a view to aesthetic appeal." As he famously wrote, in *Outline*: "A bicycle shed is a building, Lincoln Cathedral is a piece of architecture"; and in articulating this distinction in 200 concise pages, Pevsner made necessary use of the established taxonomies: classical, gothic, and modern in all their rebirths, revivals and permutations. [24] To be sure, he was as uncomfortable with modernism's formalist turn as Giedion, and he dismissed much mid 20th-century architecture as the work of "fantasts and freaks"; but Pevsner had learned, thanks to Reyner Banham, that one generation's freaks might be the next generation's heroes. [25] But this didn't mean he was willing to devise a stylistic nomenclature to describe it. There was a line beyond which "the historian should not go," namely attempting to describe

things "which belong to our own day and not to history yet." All one could do, Pevsner concluded in *An Outline*, was to apply "the principles of historical analysis as far into the problems of the present day as they can safely be applied."

As it turned out, in *The Buildings of England*, the historian decided not to apply those principles very far at all; and more, he determined that our contemporary culture had actually made the whole thing moot: "an atomised society," he declared, "cannot have an architectural style." [26] But what was Pevsner's intention with such a firm declaration? Was he admitting the advent of multi-culturalism, or was he acknowledging the limits of formalist methodology? In any case, he seems to anticipate the disciplinary concerns of the second half of the 20th century, when those old stylistic taxonomies would be interrogated, extended, critiqued and even entirely discarded — only to be resurrected, unexpectedly and somewhat unwittingly in the early 21st century, when the exigencies of the digital age required us to look backward in order to move forward, at least where the history of buildings is concerned.



"The Century is Over, Evolutionary Tree of 20th-Century Architecture," by Charles Jencks, 2000.

4. The formalists' revenge

For the historians who came after Pevsner, especially those who trained with him, atomization was well-worth investigating. Already, in the 1958 dissertation he prepared under Pevsner's supervision, Reyner Banham had challenged the singularity of "an architectural style" by exploring a plurality of modern *isms*, all those diverse tendencies that marked the European avant-garde before World War II. When Banham published the dissertation in 1960 as *Theory and Design in the First Machine Age*, the impact — as we understand in hindsight — was not so much to destroy modernist taxonomies as to expand them to include Futurism, Expressionism, etc., as new stylistic categories.

While this may not have been Banham's intention, his own doctoral student, Charles Jencks, has pursued this agenda with dogged determination. He's not only spent the past few decades investigating the stylistic proclivities that 20th-century atomization has perhaps unexpectedly produced, he's also demonstrated a vested interest in the value of taxonomies. As the hegemony of modernism gave way to the vicissitudes of postmodernism at some moment in the 1960s, Jencks resurrected Banister Fletcher's tree for polemical purposes, seeking to discredit modernism as a failed project while promoting postmodernism as populist pluralism. Clearly referencing Fletcher, an "evolutionary tree" charting stylistic developments after 1955 appeared in the first edition of *The Language of Post-Modern Architecture*, in 1977; it was still there, expanded and updated, in a 2002 repackaging, *The New Paradigm in Architecture*; and it remains — with yet another update — in the book's most recent overhaul, *The Story of Post-Modernism*, of 2011. [27]

Jencks's tree is actually a timeline, showing the development of what he identifies as the six main trends of the last half-century, presented in five-year increments: historicism, straight revivalism, neo-vernacular, urbanist ad hoc, metaphor/metaphysical, and postmodern space. To each trend, as it stretches across the decades, Jencks assigns a series of designers, movements and events, using all caps and vertical placement to indicate a hierarchy that seems discernible only to the author. In the 2002 and 2011 versions, the timeline content is denser, and Jencks introduces color and varied text size to draw our attention to such stylistic developments as Post-Modern Classicism, Post-Modern Eclecticism and Critical Regionalism. It is notable that with each new book, Jencks's taxonomies have become increasingly lush, from Global Pluralism, Cosmic Symbolism and Radical Eclecticism, to the Critical-Creative and the Expressively Green, and finally to — of all things — Critical Modernism.

By categorizing architecture since 1960 with increasingly narrow stylistic labels, Jencks is practicing a formalism so exaggerated it seems like a caricature of Fletcher's comparative method. Obviously he is reveling in postmodernist irony, but he also seems to be ribbing the critical methodologies of contemporary architectural history — the methodologies utilized by the majority of historians working today, by those of us who have shown little interest in establishing a nomenclature to distinguish Frank Gehry's house in Santa Monica from his Guggenheim in Bilbao, who have failed to consider whether "modernist" applies equally well to Le Corbusier's Carpenter Center and Yamasaki's MacGregor Center. This generation of scholars — my own generation, which I will liberally define as including anyone in graduate school in the '80s, '90s, or '00s — has shown little interest in classification schemes or in comparative methods which, we believed, long ago lost their vigor. Under the influence of critical theory, we were trained to focus on the roots of Banister Fletcher's tree of architecture, on "geography, geology, climate, religion, social and political, history," and not on the stylistic branches those roots produced. If we've paid these taxonomies any attention at all, it's been mainly to interrogate their biased construction and to dismantle their canonical assumptions, to analyze them as discourse rather than to accept them as gospel.

So why should we care about Jencks's extravagant redeployment of Fletcher's formalism when we don't *do* this kind of architectural history? Because, it turns out that we still *need* this kind of architectural history: we need new and authoritative taxonomies that will allow us to sort out not only the last half century of architecture, but all the older/other/odder stuff we finally got around to studying once we learned to look beyond the major monuments — to challenge Pevsner's presumptions about which buildings were designed with a view to aesthetic appeal.

In making these histories intelligible to future generations — assuming that's a goal — we will rely increasingly on dynamic web-based resources — and these resources require us to assume taxonomic

responsibility by virtue of the hierarchical structure and computational logic that is inherent in projects of digital scholarship. Let's note here that digital scholarship is not the same things as *digitization*, an oversimplified term that implies mere translation from one media to another: a PDF of a print book is digitization; a website presenting content built on a relational database is digital scholarship. If we abdicate the taxonomic responsibility that comes with digital scholarship (and is required to build that database), we do so at our peril: for if we do not create those taxonomies, someone else is going to do it for us, and we may not like the results. Jencks uses the term *datascape* to account for the impact of the computing revolution on architectural design practice, but we might equally apply it to the impact of the computing revolution on architectural historical practice.

Which takes us back to metadata, to the *Buildings of the United States*, and to SAH Archipedia.



SAH Archipedia, home page.

5. Building data

When the first *BUS* books appeared, 20 years ago, the public Internet and the World Wide Web were in their infancy and computing was anything but ubiquitous. A decade later, SAH had begun to grasp the potential of the digital revolution and so-called humanities computing, and to re-imagine *BUS* for the new age. When I joined the editorial board, in 2005, these discussions had proceeded far enough for SAH and University of Virginia Press to seek funding from the NEH, and in 2010 we were awarded a grant to digitize 12 volumes, to develop a platform for publishing this so-called "legacy" content online, and to engineer a collaborative authoring and editing system for the creation and management of born-digital content. By the end of 2012, this initial work was finished, and we launched SAH Archipedia with a goal of developing it into a media-rich, fully searchable, online encyclopedia of the built world. Currently the Archipedia contains more than 10,000 building histories, 6,500 photographs and drawings,

and tens of thousands of pieces of structural and descriptive metadata, and it will grow in stages as we digitize the remaining print books and produce new content. [28]

One of the most satisfying aspects of SAH Archipedia in its current release is how it visualizes geospatial coordinates. Using Google Maps/Google Earth API in much the same way as do countless commercial websites, SAH Archipedia generates dynamic maps that indicate the precise location of every building represented by a narrative entry (the basic unit or "object") in the underlying database. The quality of these geospatial coordinates is exceptionally high: after the natural language street addresses found in the print volumes were automatically translated into longitude and latitude pairs, the coordinates were subjected to editorial — i.e. human — review, in which the location of every building was pinned precisely using satellite imagery.

This 21st-century enhancement of 20th-century cartography brings the field guide ambitions of *BUS* into the era of global data networks and mobile devices; yet at a fundamental level — and as an unintended and somewhat paradoxical effect — the geospatial data reinforces the "placeness" of the series, as embodied in the fixity of the printed page. To put it another way, adjacencies in print are simple translations of proximate locations out there in the real world. Hence, in *Buildings of Rhode Island*, the 1848 Church of the Holy Cross (designed by leading Gothic Revivalist Richard Upjohn) occupies the same page as the 1929 Floradale Motor Court (a well-preserved example of roadside commercial design) simply because the two buildings stand at opposite ends of Oliphant Lane in Middletown, RI. This page/place nexus is, of course, a familiar trope of the guidebook, and it enhances the practical value of the *BUS* volume in the field. At the same time, it limits the practical value of the *BUS* volume *on* the field (of architectural history) by isolating buildings within book covers and state lines.

This localism has undeniable advantages, and was absolutely necessary from an organizational standpoint when the series was conceived, in the print era; but it becomes a liability — or at least a methodological limitation, taxonomic or otherwise — when we want to transcend the specificity of place to discover contexts and connections not discernible in the vicinity of town, county, or state — contexts and connections that are now enabled by digital technologies. The *Buildings of the United States*, as a compendium of scholarly research, has the potential to transform our understanding of the buildings of the United States, as a collection of architectural, cultural and socio-economic artifacts — but only if we can look across state lines and beyond the content of each individual book. This is precisely what SAH Archipedia enables, principally because the website is not a static translation of print to digital, but an attempt to rethink how we do history in the 21st century.



SAH Archipedia, search results showing the Thomas Hughes House (Vanna Venturi House), with geospatial coordinates created using the Google Earth API.

But place is still fundamental to the project. The breadcrumb trail navigation scheme in Archipedia is based on the geographic structural organization of the books and their introductory essays; for example: USA >> Eastern Pennsylvania >> Philadelphia County >> Modern Chestnut Hill >> Thomas Hughes House (Vanna Venturi House). But it is also possible to conjoin place with other characteristics that give a building significance — its designer, its typology, its style — and this is where Archipedia, as an online resource, parts ways with *BUS* as a print publication. Within Archipedia, users can aggregate geospatial metadata with descriptive metadata, visualizing new relationships in the built environment as evident in the history of its architecture, depending, of course, on how much of this architecture is represented in Archipedia to begin with.

At this early point, even with a data set limited to digitized content covering only ten states and the District of Columbia, the results are intriguing, if not always surprising. For example, while it is hardly revelatory to find many buildings designed by McKim, Mead and White and Skidmore, Owings and Merrill in Archipedia, it is notable that the national dominance of these firms at the beginning and in middle of the 20th century is legible even without coverage of Illinois and New York, the states where they had the greatest impact. Nor is it remarkable that there are so many Greek Revival buildings in Archipedia (as Henry-Russell Hitchcock might have predicted); but that so many are unattributed (521 out of 569) supports an interpretation of Greek Revival as a legitimate American vernacular. The results of these relational queries will grow in complexity and sophistication as more content is added to Archipedia. Like J.B. Jackson tracking the Westward-Moving House, it will be possible to comprehensively map — and thus analyze and interpret with new levels of precision — the spread of such things as modernized storefronts across the United States, Carnegie libraries across the English-speaking world, or American hotels across the globe. [29]

These three examples are suggested by existing books; as scholarly projects, their scale and scope were shaped by the realities and limits of print publication (e.g., number of pages, images, etc.). How might these projects have changed had the conventions of presentation, i.e., the bound volume, been removed? What new insights and conclusions might have emerged? Not just discretely, as individual visualizations akin to the many (amazing) digital-mapping projects that now exist, but collectively, through the juxtapositions and cross-fertilizations enabled by a digital platform that not only publishes scholarship but actually produces it?

That's the promise of Archipedia; but our ability to use it to generate new and potentially significant architectural history — now and in the future — will depend upon two things. First, it will depend upon the breadth of Archipedia's content, i.e., its narrative building histories. As the repository of individual histories grows through peer-reviewed contributions, so too will the opportunities for scholars to make use of those histories — not simply as individual buildings but more broadly in relation to all the other buildings sorted according to chosen criteria. Second, the future potential of Archipedia will depend upon the richness of its structural and descriptive metadata. In Archipedia, this metadata includes semantic tags for people and firms, periods and styles, materials and types, all of which are used to describe every "object" (each building history) for purposes of subsequent discovery and identification. Metadata matters because none of those building histories will be of much use if we don't know how to find them. [30]

SOCIETY OF ARCHITECTURAL HISTORIANS
SAH ARCHIPEDIA

McKim Mead and White

Search HELP

Results 1–10 of 123

Search Results

Map

Can't find what you're looking for? Please read about our [current coverage](#) or see our [tips on how to search more effectively](#).

PEOPLE & FIRMS

- McKim, Mead and White (34)
- Stanford White (3)
- Alden and Harlow (2)
- C. L. Bevens (2)
- Charles Follen McKim (2)
- Furness, Evans and Co. (2)
- Hornblower and Marshall (2)
- J. Williams Beal (2)
- James A. Wetmore (2)
- John Kevan Peebles (2)

RITZ-CARLTON HOTEL

TRINITY HIGH SCHOOL

SAH Archipedia, search results for "McKim, Mead and White," showing the geographic range of the firm (based on the existing entries in the encyclopedia).

Archipedia's semantic tags are derived from a set of controlled vocabularies (drawn principally from the

Getty *Art & Architecture Thesaurus*, for periods, styles, materials and types; and from the Getty *Union List of Artist Names* and the AIA *Historical Directory of American Architecture*, for people and firms [31]). The same desire for consistency has informed the early creation of Archipedia's structured and descriptive metadata; and since Archipedia's foundation content was digitized rather than born digital, it was necessary to algorithmically generate much of this metadata, including an initial round of tags, by matching full-text search values with our selected controlled vocabularies. When the literal and semantic correspond — when a textual reference to “Federal” means Federal as a period or style rather than as a proper name (Federal Street) or adjective (a federal office building) — the machine-generated tags are surprisingly accurate. When they do not correspond, these tags, like the geospatial metadata, are subject to human review to correct errors (over-tagging by a zealous algorithm) and to resolve inconsistencies (Louis Kahn vs. Louis I. Kahn; Albert Kahn vs. Albert Kahn Associates). This metadata correction is necessary for legacy content but not, happily, for born digital content.

We are thus poised to enter a brave new world of scholarship, as architectural historians begin to do the tagging themselves, using the same controlled vocabularies and confronting the same taxonomic issues. Controlled vocabularies have their limits, of course; and, at any rate, there are those among the digerati who would reject the very idea of tagging with controlled vocabularies, believing that the broad-based collaborative and social dimensions of what's been termed folksonomy — in essence, collaborative or social tagging — are antithetical to the rigidity and institutionalization of predefined and authorized terminology. Within SAH Archipedia, we are hoping to have it both ways: insisting upon the use of controlled vocabularies in order to avoid semantic chaos, which would frustrate discovery of Archipedia's content, while at the same time allowing Archipedia authors and editors to petition for additions to and extensions of the existing set of records. This would allow user-generated tags, but subject them to the same level of scrutiny as the peer-reviewed content of Archipedia's building histories. Think of it as a kind of closed yet crowd-sourced metadata.

Metadata correction may be labor-intensive logistically, but metadata creation is labor-intensive intellectually. Imagine a building history in which a potential tag is implied, in the text, but not explicitly stated. The work of Henry Hobson Richardson is a case in point: should the buildings be tagged as Richardsonian Romanesque, even if this is a backformation historically? Another example: the metadata creator needs to decide if the entry for the Vanna Venturi House should be tagged as postmodern — and that decision will depend on whether or not you take Robert Venturi and Denise Scott Brown's famous “Marx was not a Marxist” demurral literally. [32] Many historians would surely identify Mother's House as a key work of postmodernism. And to not tag it as such means that anyone searching for postmodern buildings in Archipedia will not discover it, which is a shame, because there's a limit to how many Johnson-Burgee towers you really want to read about.

In creating associated descriptive metadata, in tagging building entries to describe their materials, types, and, perhaps most especially, their styles, the author of metadata is practicing the historian's craft and engaging in the historian's stock in trade. “Name it, then we'll know what it is,” Reyner Banham suggested at the end of “The Great Gizmo.” We can name it metadata creation, but we already know what it is: architectural history.

Author's Note

This article grew out of a paper delivered at the annual conference of the College Art Association in February 2013. My thanks to Craig Eliason for organizing the session, “Putting Design in Boxes,” and to David Shields for his useful commentary.

Notes

1. Roland Barthes, "The Death of the Author" (1967) in trans. Richard Howard, *The Rustle of Language* (New York: Farrar, Strauss and Giroux, 1986), 49-55. See also Nicholas Rombes, "The Rebirth of the Author," *C THEORY* (October 2005).
 2. Nicholson Baker, "Discards," *The New Yorker*, 4 April 1994, 64-86.
 3. See Karen Coyle, "Understanding Metadata and its Purpose," *Journal of Academic Librarianship* 31 (March 2005), 160-163. Here, Coyle offers the quip that "metadata is cataloguing done by men." See also Coyle's InFormation.
 4. Reyner Banham, "The Great Gizmo" (1965), reprinted in ed. Penny Sparke, *Design by Choice* (London: Academy Editions, 1981), 108 & 110. The Sears Catalogue from 1896–1993 is available in a digitized version at Ancestry.com.
 5. Sigfried Giedion, *Space, Time, and Architecture* (1941; rev. Cambridge: Harvard University Press, 1967), 347-351. Banham, "The Great Gizmo," 110.
 6. According to Damie Stillman, former BUS Editor-in-Chief who saw the first volumes into print, a database of building histories was discussed frequently in the early days of the project as a way of creating a compendium of multiple states. Conversation with the author, 23 February 2013.
 7. Turpin Bannister, "Next Steps III," *Journal of the American Society of Architectural Historians* 1 (July-October 1941), 46. See also "R.P.I Teacher will Aid W.P.A.," *The New York Times*, 15 December 1938, 3. On the early by-laws see Osmond Overby, "From 1947: The Society of Architectural Historians," *Journal of the Society of Architectural Historians* 49 (March 1990), 12.
 8. Henry-Russell Hitchcock quoted in "Summary of the Round Table Discussion on the Preservation of Historic Architectural Monuments," *Journal of the American Society of Architectural Historians* 1 (April 1941), 22-23.
 9. Roger Hale Newton, "The Pressing Challenge of our Native American Culture," *Journal of the American Society of Architectural Historians* 2 (January 1942), 31-33, 38.
 10. J.D. Forbes and Richard H. Howland, "Report of the Society of Architectural Historians," *Report of the Commission on Humanities* (New York: American Council of Learned Societies, 1964), 77–81.
 11. From the beginning Pevsner was aware of *The Buildings of England*'s potential for obsolescence, due to interpretive errors in the text and to changing dynamics in the built environment. According to Susie Harries, his recent biographer, Pevsner understood the importance of establishing a systematic and long-term process for revisions, and these began in 1968 when Penguin hired Bridget Cherry, a Courtauld-educated medievalist, to correct and, eventually, completely revise the series. See Susie Harries, *Nikolaus Pevsner: The Life* (London: Random House, 2012), 703-708, 752.
- Cherry served as series editor from 1971 until 2002, when Yale University Press acquired the *Buildings of England* from Penguin; by this time questions of sustainability for the series had more to do with finances than with content, and a few years earlier an independent registered charity, now known as the Pevsner Books Trust, had been established to raise the funds to keep the series going.
- While the commercial viability of the BoE was essential, so was its accessibility. Pevsner had conceived the series as popular scholarship, and had apparently been concerned about price increases and about Penguin's 1970 decision to cease publishing in paperback: as affordability and portability diminished, so would the intended audience. If these concerns persist, they are mitigated somewhat by the reintroduction of relatively inexpensive

paperback volumes, and by the rethinking of the series for the era of smart phones and tablets. This spring the first ever Pevsner app appeared on iTunes, but Pevsner has had a modest web presence since 2001, when, on the occasion of the series' 50th anniversary, the Trust launched Looking at Buildings.

12. Pevsner is quoted in John Russell, "Art People," *The New York Times*, 27 August 1976, 57. Inundated as we are with e-books and online content, it's easy to forget the transformative impact of the so-called quality paperback when it appeared amid dime-store romances and pulp fiction in the mid 20th century; the *Buildings of England* — by virtue of accessible form and content — upended mid-century conventions of publishing, scholarly and otherwise, just as surely as their digital counterparts are doing today.

13. On the cultural importance of the series, see Harries, chapter 46, "Is it in Pevsner?" 742-56. See also Paul Crosley, "Introduction" in *Reassessing Nikolaus Pevsner*, 19-21.

14. On the impact of Pevsner's bicentennial address on *BUS*, see Damie Stillman, "Learning from Pevsner," *The Buildings of England: A Celebration* (London: Penguin Collectors' Society for the Buildings Books Trust, 2001), 63-70. See also Adolf Placzek, William H. Pierson, Osmond Overby, "Foreword" in Pamela Scott and Antoinette J. Lee, *Buildings of the District of Columbia* (New York: Oxford University Press, 1993), vi. Nicholas Adams, "Architectural Touring American Style," *Journal of the Society of Architectural Historians* 52 (September 1993), 265-66.

15. Paul Kennedy, "Constructed 1902. Unique." *The Guardian*, 5 December 2003. Placzek, Pierson, Overby, v. See also Nicholas Adams, 265-55.

16. Scott and Lee, 146. William H. Jordy, et al, *Buildings of Rhode Island* (New York: Oxford University Press, 2004), 144.

17. The tree appears for the first time in the 5th edition: Banister Fletcher, *A History of Architecture on the Comparative Method*, 5th edition (London: B.T. Batsford and New York: Charles Scribner, 1905), iii. Fletcher's tree visualizes the categories that James Fergusson, building on the work of Johann Winkelmann, developed into a full-blown classification system with reference to architecture, which Fergusson saw as the consummation of all other forms of technical and aesthetic production Fergusson fixed and popularized divisions between "the different styles of architecture prevailing in all ages and countries," and offered a classification system for formal characteristics discernible in a building's massing, materials, ornamentation, etc. Fergusson's work presented in narrative terms what he saw as the relations and influences that shaped buildings across time and across the globe. See James Fergusson, *An Historical Inquiry into the True Principles of Beauty in Art: More Especially with Reference to Architecture* (London: Longman, Brown, Green, and Longmans, 1849), 179-81 and James Fergusson, *The Illustrated Handbook of Architecture: Being a Concise and Popular Account of the Different Styles of Architecture Prevailing in all Ages and Countries* (London: John Murray, 1855), vii-viii.

18. David Watkin, *The Rise of Architectural History* (London: Architectural Press, 1980), 87. For a different interpretation of Fletcher's tree and the history of modernism see Carroll William Westfall, "Toward the End of Architecture," *Journal of Architectural Education* 64 (February 2011), 149-157.

19. Walter Gropius, *The New Architecture and the Bauhaus* (Cambridge: MIT Press, 1965), 20. Henry-Russell Hitchcock and Philip Johnson, *The International Style* (1932; rpt. New York: Norton, 1966), 17-21.

20. Sigfried Giedion, *Space, Time and Architecture: The Growth of a New Tradition* (Cambridge: Harvard University Press, 1962), xxxiii.

21. To enhance the series' accessibility, Pevsner prepared a glossary of specialized vocabulary, from abacus to zigzag, which grew in tandem with the project's geographical and chronological scope. By the time it appeared as a print volume (2010) and as an iPhone and iPad app (2013), *Pevsner's Architectural Glossary* included more than 1,000 terms. Though the print glossary includes 50+ plates arranged typologically (ecclesiastical, public, domestic)

with captions excerpted from the guides, its arrangement is predominately alphabetical. In web and app formats, by contrast, the arrangement is far more dynamic — here metadata unpacks the glossary's potential to become the learning tool Pevsner always intended. This is clearest in the app's categories — that is, in the structural metadata used to group terms according to typologies, chronologies, materials, features, periods and styles, with each term appearing in as many categories as makes sense. Thus, "abacus" is both classical and structural; "picturesque" is both landscape and style; "concrete" is both modern and material. On the evolution of the glossary, see Simon Bradley, "Forward," *Pevsner's Architectural Glossary* (New Haven: Yale University Press), 6-7.

22. Nikolaus Pevsner, *Pioneers of Modern Design: From William Morris to Walter Gropius* (1936; rev. London: Penguin Books, 1960), 38.

23. See Fletcher, 593-94. Nikolaus Pevsner, *An Outline of European Architecture* (1943; rpt. London: John Murray, 1948), 214-15.

24. Pevsner, *An Outline*, xix.

25. Pevsner uses the phrase "fantasts and freaks" in his 1960 forward to the Pelican edition of *Pioneers*. It described his original assessment of the Futurists and the Expressionists as well as those who were pushing the boundaries of modernist propriety in the post-war decades. On Banham's doctoral research, which caused Pevsner to slightly moderate his earlier critical position, see below.

26. Pevsner, *An Outline*, 215.

27. Charles Jencks, *The Language of Post-Modern Architecture* (New York: Rizzoli, 1977), 80. Charles Jencks, *The New Paradigm in Architecture: The Language of Postmodernism* (New Haven: Yale University Press, 2002), 50-51. Charles Jencks, *The Story of Post-Modernism: Five Decades of the Ironic, Iconic and Critical in Architecture* (Chichester: John Wiley & Sons, 2011), 48-49. In form, Jencks' tree is reminiscent of Alfred Barr's 1936 chart of "Cubism and Abstract Art" — which itself offered a brief architectural evolution as it showed the influence of the Machine Esthetic generally, and Purism, Neoplasticism and the Bauhaus directly, on the emergence of modern architecture.

28. This new content will include 4,000 new U.S. building histories and requisite associated materials, made possible by the National Endowment for the Humanities.

29. Historians have already studied these distinct building types but they have not, as yet, analyzed them from a digital humanities perspective. It remains to be seen what new interpretations might emerge. See Gabrielle Esperdy, *Modernizing Main Street: Architecture and Consumer Culture in the New Deal* (Chicago: University of Chicago Press, 2008). Abigail Van Slyck, *Free to All: Carnegie Libraries & American Culture, 1890-1920* (Chicago: University of Chicago Press, 1995). Annabel Wharton, *Building the Cold War: Hilton International Hotels and Modern Architecture* (Chicago: University of Chicago Press, 2004).

30. For explanations of metadata and its use in relational databases, see the work of the National Information Standards Organization. Amy Brand, Frank Daly, Barbara Meyers, *Metadata Demystified: A Guide for Publishers* (Bethesda, Maryland: NISO Press, 2003). *Understanding Metadata* (Bethesda, Maryland: NISO Press, 2004). SAH Archipedia also includes "building event" as part of its descriptive metadata structure, which is a way of capturing everything that happens to a building during its lifetime, from a change of name or function to a new addition, or even a building relocation. Because of the difficulties of generating "building event" from digitized content, the utility of this metadata will only emerge as new content is added.

31. The Getty Research Institute initiated its vocabulary program in the late 1970s to insure consistency in cataloguing and information retrieval, and the Getty AAT, published in print form in the 1990, was an important resource during the preparation of the first *BUS* books, as the series' editors worked with authors "to establish as much as possible a consistent terminology of architectural history" — particularly in the United States where

regional diversity, both geographic and social, inflected building practices, and ways of describing them, before and after European settlement: adobe, poteaux-en-terre, Cape, shotgun, Prairie. See Getty Vocabularies Frequently Asked Questions. BUS editors quoted in Placzek et al, "Foreword," viii. As a preservationist in Montana recently explained to me, they considered it a triumph when they convinced Getty to include "rawhide" as a building material.

32. See Martin Filler and Rosemarie Haag Bletter's film *Beyond Utopia: Changing Attitudes in American Architecture* (Blackwood Productions, 1983). Denise Scott Brown is standing in the Piazza San Marco when she makes this declaration. In a 2009 Arch Daily interview, Scott Brown acknowledges that she and Venturi are, in fact, Postmodernists. See Andrea Tamas, "Interview: Robert Venturi & Denise Scott Brown."

Esperdy, Gabrielle. "Building Data: Field Notes on the Future of the Past." *Places Journal* (September 23, 2013) [online]

<http://places.designobserver.com/feature/metadata-and-the-digital-future-of-architectural-history/38106/>