

In Search Of: Masterworks of Information Architecture



Dan Klyn

Abstract In order to identify and enumerate some of the normative criteria for critique (or appreciation) of a given info-architectural structure, system, or solution, two candidate “masterworks” of information architecture are provided for evaluation and discussion: the 1st edition of James Joyce’s first novel, *Ulysses*, and the only edition of Richard Saul Wurman’s second book, *The City: Form and Intent*.

Introduction

Comparison is the thief of joy—Theodore Roosevelt

Information architecture theory is anchored in apperception: a term I have borrowed from cognitive science and that encompasses the various processes using which people come to understand new things in comparison with things they already understand (Klyn, 2013).

During my time as an undergraduate English Literature major at the University of Michigan in Ann Arbor, I split my time between two seemingly incomparable activities: studying the works of James Joyce, and working at a bike shop. I was keen to develop expertise with both, and was surprised, after asking the shop owner how he got into the business, to learn that he had no particular interest in bicycles. He said he had decided to buy a bike shop because his training in the US Army equipped him to perform an exacting inspection of anything, so long as there were at least two of the things to inspect. The “bi” in “bicycle” ensured his success in that business, because even while he did not personally possess the expert knowledge of how to adjust a brake, or true a wheel, he’d learned that careful comparison of “sames” makes it possible to discern something about the quality of both entities under inspection. He routinely found flaws in the work of technical experts solely on

D. Klyn (✉)

The Understanding Group (TUG), Ann Arbor, MI, USA

e-mail: dan@understandinggroup.com

University of Michigan School of Information, Ann Arbor, MI, USA

the basis of comparing the configuration of what they were working on to an adjacent instance of what was supposed to be the same configuration.

Thankfully, comparison is not the only way to understand. Because very few non-expert humans on planet earth in the twenty-first century know anything about James Joyce's first novel, "*Ulysses*" (Devlin-Glass, 2004). And far fewer, by perhaps two orders of magnitude, are the contemporary humans of any stripe who know about Richard Saul Wurman's second book, "The City, Form and Intent" (Wurman, 1963). Which makes me, for most of my readers, the thief of comparison, as I am contending that these two now-rare books—separated in time by a half century or so of innovations in printing, paper, and ink technologies—exhibit some of the most finely crafted architectures of information in the Western tradition (and in Joyce's case, in the so-called canon of English Literature) since the Enlightenment. And further: that comparison of specific masterworks such as these can help crystalize a shared set of characteristics for evaluating and appreciating information architectures, generally.

Content, Context, and Users

How might we go about identifying the most info-architecturally relevant features of the admittedly obscure examples being put forward as exhibits in this discussion? The three core dimensions of info-architectural concern presented in the four successive editions of Rosenfeld and Morville's "Information Architecture for The World Wide Web" (Rosenfeld et al. 2015) provide gaze direction; content, context, and users.

Content

Architectures of information are often invisible. Detecting the boundary conditions between "the content" and everything else that belongs to and is part of a given environment becomes a less ambiguous operation when the product or service being examined exists in multiple formats, and across channels. Teasing-out and then evaluating information architectures through the lens of content thus begins with identifying instances of words and images whose morphological expressions vary in the given environment, even while the meaning of the content isn't meant to be variable.

Context

In today's inherently cross- and multi-channel products and services, the fitness or desirability of the aspects of a given experience that are caused by and through decisions about information architecture is best evaluated through an analysis of the choreographies enacted by end-users (Benyon & Resmini, 2017). Recognizing

that “everything takes place some place” (Wurman 2017), it follows that the more context-driven characteristics of a given work of information architecture would begin lending themselves to analysis through something akin to Bachelardian topo-analysis (Bachelard & Jolas, 1994)—working backward from what people do and how they feel in an environment, as a function of and in relation to a given structure.

Users

Human beings are not only placelings (Benyon & Resmini, 2017), we are also earthlings: with bodies that are festooned with sensors, and coordinated by a sensorium that assigns meanings based on natural forces such as gravity, and based on culturally encoded spatial conventions of up-ness, and down-ness: left- and right-ness (Bloomer & Moore, 1979). Normative evaluation of a given info-architectural structure, system, or artifact through the lens of the user begins with the embodiment of human beings, and their subjective experiences with things in places.

Ideally, the candidate masterworks of information architecture would be coporally, physically available to (if not directly experienced by) anybody and everybody, for their own scrutiny and analysis. With the continuing expiration of international copyrights, advances in digital imaging, and the multiplication of open-access digital libraries, most humans who’re connected to the internet today can access digital representations of the candidate works under scrutiny in the present discussion without having to make a purchase, or travel to an archive. The inadequacy of facsimiles for certain kinds of literary and bibliographic analysis, in the case of the 1922 1st edition of *Ulysses*, has been well established in the work of John Kidd (Rossman, 1988). Whether or not contemporary people’s experiences with facsimiles of Wurman’s 1963 *tour de force* will prove adequate for assessing it as a masterwork is anyone’s guess. However, based on what we have observed thus far, and will continue to insist, about the importance of embodiment and proprioception in the processes of understanding, any conclusions one might want to draw about Wurman’s 1963 project without having used both hands in the exploration of its various contents, and spent time physically arranging and rearranging the plates on a table top must be viewed with some skepticism. The rareness of the items in question and relative fragility as physical objects underlines the importance of archives, where would be architects of information can explore and handle primary source materials that testify to the evolution of the thinking in our field.

Considerable Similarities

It was in 2012 that I first began considering similarities between the makers of what I’m proposing as two masterworks of information architecture—subsequent to Wurman being feted by University College, Dublin with the James Joyce Award. Until then, it had not occurred to me that their lives or works might connect.

At face value, Wurman seems to have more in common with Leopold Bloom, the heroic “everyman” avatar for Odysseus in Joyce’s send-up of Homer’s epic, than with the alternately “jejune,” “fearful,” and “cursed Jesuit” who penned it, and who appears in the story in the character Stephen Dedalus. Yet the similarities between these two author-architects, and between these works of theirs, are considerable.

Joyce and Wurman each received the best schooling available at the time in their respective communities. Both were noteworthy among their peers and teachers for having immense potential and a certain precociousness in the early expressions of their talent. Prior to beginning undergraduate work in their respective fields, both men thought they might pursue fine art as vocation: Joyce was a celebrated tenor; Wurman was (and still is) a marvelous painter.

Wurman and Joyce alike had difficulty submitting as schoolboys to their respective schoolmasters. In the case of the former, Dr. Lloyd W. Ashby, principal at Cheltenham High School in Elkins Park, Pennsylvania, refused to shake hands with Wurman at his graduation in 1953.

The list goes on, but one crucial similarity stands out when comparing the stories of how these men came to produce the extraordinary works in question: they were both very close to the means of production, and were able to rely on the resources of close friends and collaborators who were involved in avant-garde publishing.

Were it not for radical American expatriate Sylvia Beach’s willingness to start her own publishing imprint, risk imprisonment for obscenity, and pay for the typesetting and printing of the now-storied first edition of *Ulysses* (Fig. 1), it may not have come out as a book at all. And even so, most copies of that first edition were intercepted and burned as pornography on the pier at Folkestone in Kent, England.

For his part, Richard Saul Wurman (whose first job in England, coincidentally, was in Dartford, Kent) relied on close collaboration in manufacturing with a pioneering offset lithographer by the name of Eugene Feldman. When I asked him, Wurman remarked that Feldman:

was well known as an experimental printer. He was my collaborator on the first-ever Lou Kahn book: I designed it, but I gave Gene co-credit, and he paid for the whole printing. If you see how beautifully that was printed and how he matched that yellow “trash” color (of Kahn’s tracing paper originals) and the feeling of Kahn’s charcoal of the drawings, that was Falcon Press. Gene taught me about printing (Klyn, 2015).¹

Masterworks in Terms of Content

Published when he was just twenty-six years old, *The City: Form and Intent* was actually Wurman’s second mature foray into the architecture, design, and manufacture of a print publication, and his second collaboration with Eugene Feldman. Even so, I consider it to be Wurman’s (and the world’s) first self-consciously info-architectural

¹A facsimile of Wurman’s first book, originally printed by Eugene Feldman, is slated to be launched as a Kickstarter in Spring 2021. Kroeter, S., Kahn, N., & Wurman, R. S. (2020). *The Louis I. Kahn Facsimile Project*. <https://www.louisikahn.com/>.

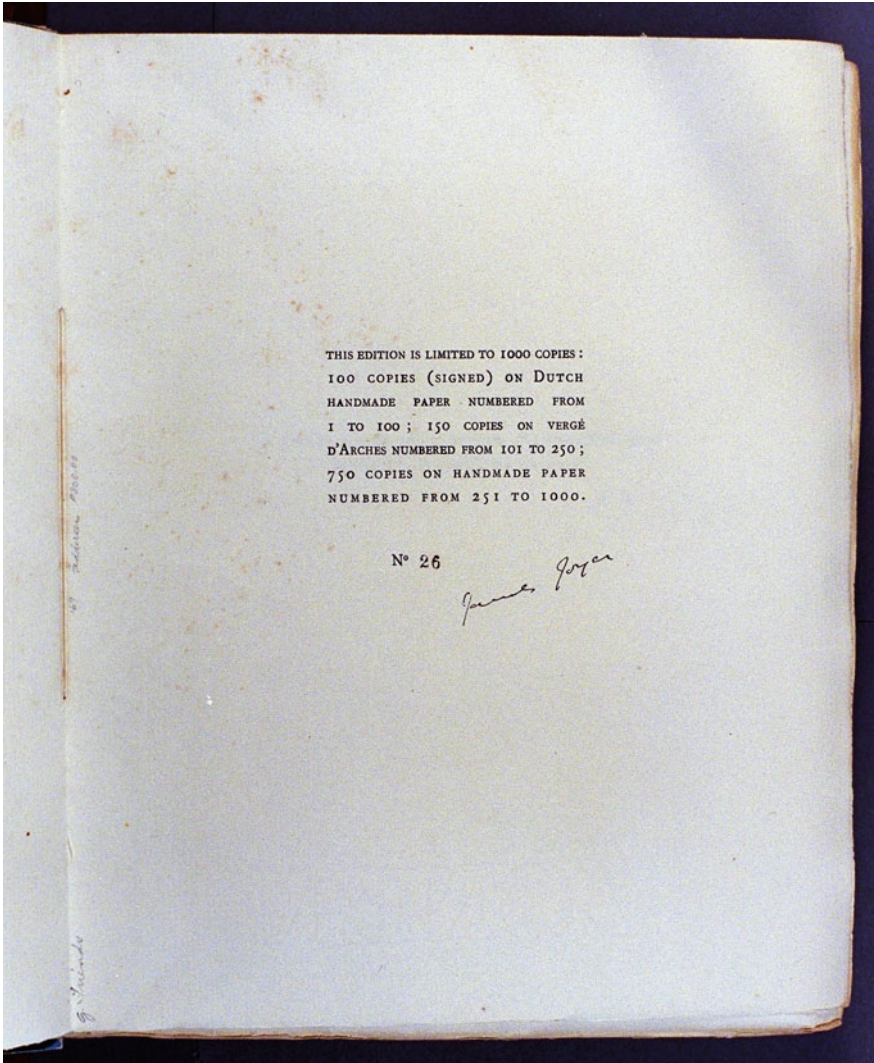


Fig. 1 Edition information and author signature from limited edition of James Joyce’s *Ulysses* (Photo by Shane Davis)

work: built by many hands, with most of the discrete choices about the ways that information would be situated circumscribed by an over-arching structural order that, when followed like a set of good instructions, enhances the “information carrying capacity” of the total work.

The City, Form and Intent: being a collection of the plans of fifty significant towns and cities all to the scale 1:14400 (Fig. 2) was created by Wurman in response to the library at the University of North Carolina in Raleigh not being able to provide



Fig. 2 Covers of R.S. Wurman’s 1963 book, *The City, Form, and Intent: being a collection of the plans of fifty significant towns and cities all to the scale 1:14400* (Photo by David Rumsey Map Collection, David Rumsey Map Center, Stanford Libraries)

the maps and city plans he required for teaching second-year architecture. When you ask him about it today, Wurman refers to this project as his “Sand Models” book:

I got some money to buy plasticine from the school, you know... \$100 bucks or whatever it was. I got the light green plasticine blocks you use in kindergarten. You could press down into the clay with balsa wood and pick it up, and that was a road. And we got a couple widths for big roads and smaller roads. It was shitty, but okay, right? They looked fine.

I constructed that book in my head, and that’s why I made [each model] 17 inches on a side: because I knew I could do every model and reduce it in half and have it 8.5 inches on a side, which was the size of the student publication. And I wanted to do it so I could build them sloppy: it’s much quicker to build something large and sloppy than very neat and small. So, it was much faster to build it big: like how it takes longer to do a short speech.

I sent the negatives up to Gene [in Philadelphia] and he said, “I think I should make my own half-tone screen.” And so he did his own half-tone screen of enlarged paper fibers – not a real screen – but the large paper fibers is what you see as a screen; that’s what we used, and it had the additional benefit of obscuring imperfections, like fingerprints, and it makes it look more like sand models: more like it was hand done. And that’s how I did the book. (Klyn, 2015)

The resulting publication manifested the fractal core of Wurman’s signature conceptualization of the architecture of information (Fig. 3). It is the first appearance in print and remains one of the most powerful artifacts from his oeuvre exemplifying what he would later coin as Wurman’s First Law: you only understand something new relative to something you already understand (Amoroso, 2010).

Wurman involved his entire second-year architecture class for four weeks in the production of the plans of 50 towns and cities in kindergarten clay, all at the same scale. In so doing, professor Wurman ensured each one of his students’ ability to understand any one particular city or town by way of a calibrated comparison with the other forty-nine. If any of the students in Raleigh, North Carolina, had been to Savannah, Georgia, they would now be able to understand something about Amsterdam. Or Ankor. Or Assisi. Or Athens.

The content strategy for the project produced by Wurman and his students in North Carolina in 1963 is isomorphic to the specific content, context, and users



Fig. 3 Loose plate of Amsterdam city from R.S. Wurman's 1963 book, *The City, Form, and Intent*: being a collection of the plans of fifty significant towns and cities all to the scale 1:14400 (Photo by David Rumsey Map Collection, David Rumsey Map Center, Stanford Libraries)

for the project, even while its physical realization is polymorphic, and functions on the basis of a loose coupling of words and pictures, with an imagined end-user choreography that entails the use of both hands, and consideration of multiple entities (and even media-types) in ad hoc configurations. The plates are numbered, but their sequencing is largely determined by whoever last handled the physical artifact: with loose-leaf pages that afford being put together (or back together) in a near-infinite number of ways. The numbering scheme for the plates depicting cities and towns is keyed only to the book's index (as opposed to some external source of meaning, such as degrees of latitude or longitude), and is merely a reflection of the alphabetical ordering of the names of the cities and towns selected for inclusion in the project. Wurman's decision to render the plate numbers in Roman numerals (as opposed to Arabic) helps to ensure that this arbitrary numbering scheme won't be used as the primary method for accessing the information, and relieves the book's reader of the obligation to re-assemble its components in any particular sequence.

Part of what gives me the confidence to propose the 1963 edition as a masterwork of information architecture is comparison (talk about being the thief of joy!) with an

edition of the work that Wurman printed subsequently in 1974 under his own Joshua Press imprint (Fig. 4).

The 1974 version, titled *Cities: Comparisons of Form and Scale* provides readers with access to the “same” content that Wurman’s students created in 1963, only in an inexpensive, perfect-bound codex. It comprises all of the pictures and words from 1963, and one could argue that it is a more “user friendly” version of the project. It was certainly a more commercially viable way to make the project understandable and accessible in cases where access to one of the 1963 original versions is not possible. The Joshua Press edition is also, in my view, a manifestly inferior object, whose architectures and end-user choreographies are at odds with the purpose that generated the original work in 1963 (Fig. 5).

Comparison here proves that a given quantity of pictures and words, when presented within a different information architecture—where the spatial and semantic relationships are re-keyed to a wholly different geometric configuration, around an entirely different end-user choreography—simply doesn’t mean the same thing, and doesn’t operate in the same way.

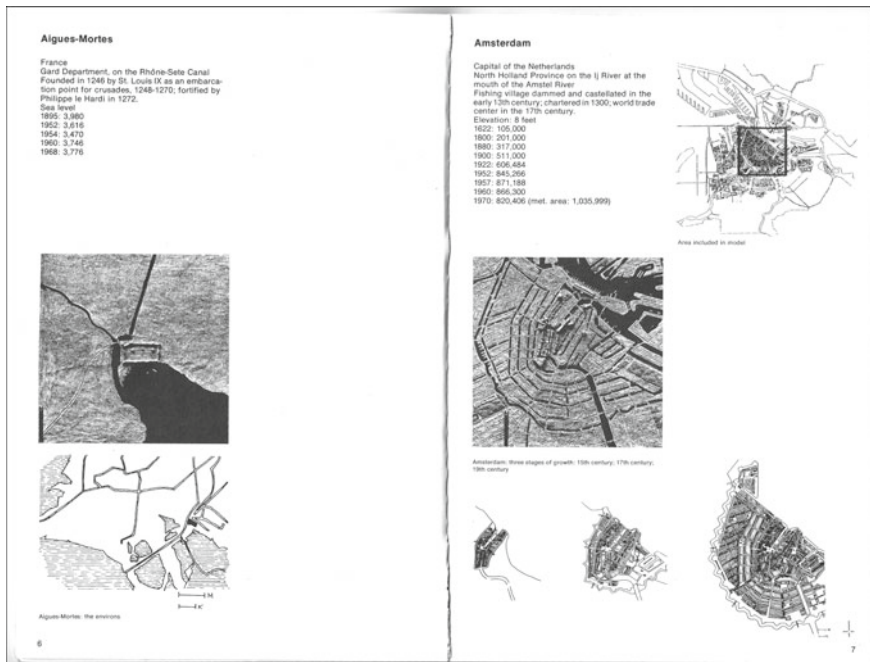


Fig. 4 Two pages, Aigues-Mortes and Amsterdam, from R.S. Wurman’s 1974 book, *Cities: Comparisons of Form and Scale*. (Photo by Dan Klyn)

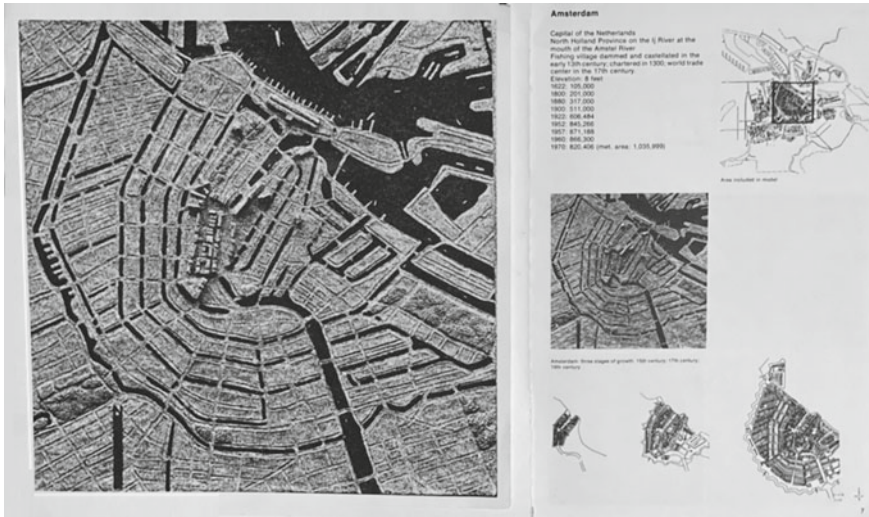


Fig. 5 Side-by-side comparison of Amsterdam page from 1973 version (left) and loose-leaf page from 1963 version (right) of R.S. Wurman’s works (Photo by Dan Klyn)

The Scandal of *Ulysses*

How to introduce, especially to those who have not yet read or examined it, what is widely esteemed as the twentieth century’s ultimate work of fiction in the English language? How might one better equip people who understand information architecture, but who have not yet read the novel, to adequately appreciate the experience of reading it? I like what Vicki Mahaffey says:

Ulysses is an ebullient, compassionate, raucous, radically democratic, searingly honest yet full-of-blarney anti-narrative. It is far longer than you would like until you’ve read it once; then, suddenly, it seems way too short. It can seem daunting, even ponderous if you approach it with awe tinged with resentment, but if you hear it as a repeated injunction to “choose life” as it is, as it was, as it can be, it turns into a verbal and emotional thrill-ride where the only thing to do is to let go and enjoy the journey. And it is about journeys, or Homeric odysseys, here compressed into a single day (Mahaffey, 1988).

Joyce’s use of Homer’s “Odyssey” as a structuring device for the actors and actions in his story is widely known and used by today’s readers, many of whom would have been assigned interpretive aids in tandem with the text of the novel in a college course in English Literature or Modern Novels. The Odyssean scaffolding is likely to have been quite less tangible to readers in the ranks of Joyce’s original audiences, for whom the eighteen numbered-but-not-named episodes that comprise the work would have seemed non sequitur in relation to the canonical 24 episodes of Homer’s epic. That is, if they could get their hands on a copy of the book, which was suppressed in England, France, and the United States under contemporary obscenity laws.

In the same way that the loose-leaf “book” Wurman brought out in 1963 was and is capable of meaning differently, and in more complex and extraordinary ways, than what is possible and available for people from 1974 forward who have interacted with the subsequent codex version, the meaning that Joyce was able to create in the work we all refer to as “*Ulysses*” is very much a function of its original configuration in 1922, and the process of its realization as a made object under conditions of capitalism and censorship. To such a significant degree, that the physical realizations of the work must be addressed as spaces for and of meaning that are covalent with the “text.” In both “*Ulysses*” and in “*The City, Form and Intent*,” as with many great works of architecture in the built environment, the structure itself is authored and architected to be legible, and to be read as text (Kidd, 1989).

To put it another way: had either author realized the work in question as a letter that you or I would receive in the post, the envelope, and the paper stock, and the geometries of how the paper is folded (Fig. 6), and the orientation the postage stamp; even the smell of the paper would be considered instrumental to the meaning that has been made. These elements are not subsequent or a side-show to the delivery of some other “actual content;” they are actually content.

An example of just one of many bibliographic/architectonic codes available for readers in 1922 to interpret as part of the meaning of the *Ulysses*: the blue of the cover (Fig. 7). Basic historical research finds abundant witnesses to the fact of its having been selected by Joyce to evoke the hue of the Greek flag. Understanding this particular aspect of the realization of the work as codex in 1922 enriches the reader’s experience with the other versions and editions, irrespective of the choices made

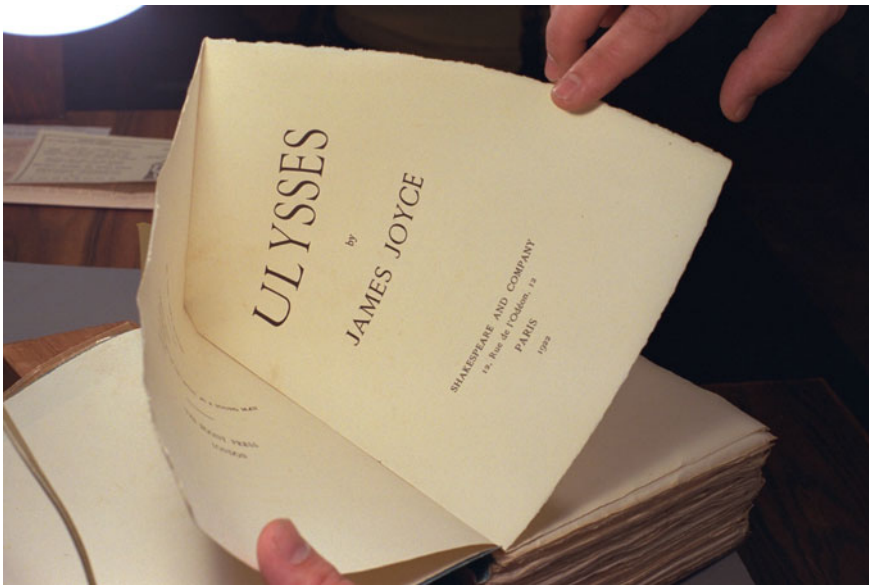


Fig. 6 Photograph of limited edition 1922 printing of *ULYSSES* by James Joyce with folded paper

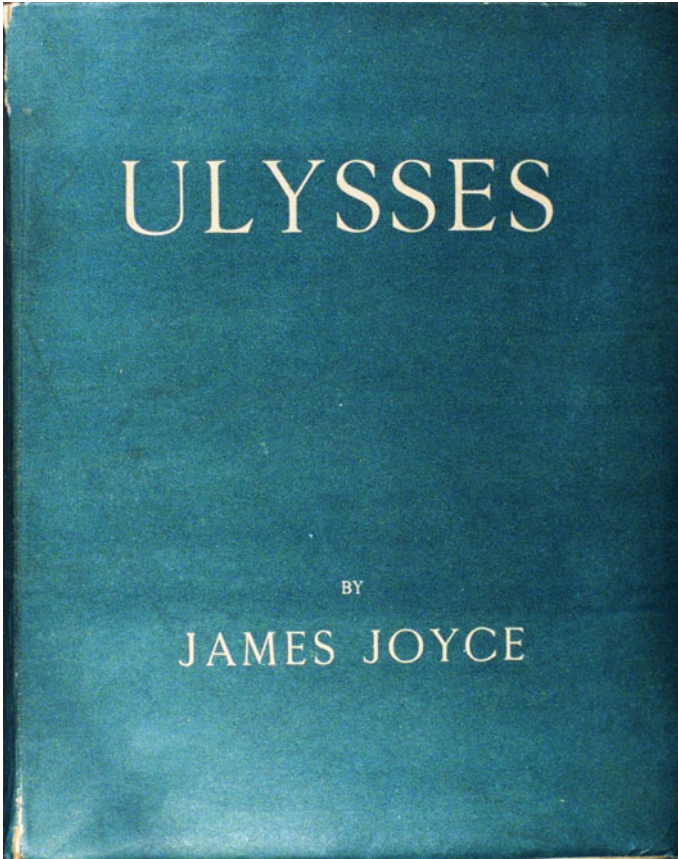


Fig. 7 Photograph of blue cover of James Joyce's *Ulysses* (Photo by Shane Davis)

around the design of the cover in other versions and editions. It may even embolden the reader to interpret other color choices for cover stock and binding cloth in the six or seven different editions Joyce is known to have been involved in the manufacture of as authorial.

Contrarily, one example of a particular artifact of the realization of the work as codex in 1922 that those same readers might have found less helpful in interpreting the work: a word that looks more like the name of a bird (Kildere) than the name of a place in Ireland (Kildare). Much like the infamous error in the text of *Moby Dick* that caused critics to do gymnastics in their analyses to come to grips with Melville's supposed "soiled fish of the sea," only to have later editorial scholars identify the authorial reading as "coiled" (Shillingsburg, 2006), the 1922 typist's error Kildere can be corrected to Kildare through collation across other versions and editions.

Basic editorial scrutiny of this sort, sometimes referred to as "copy-text editing," reveals a plentitude of other features inherent in the first edition of "*Ulysses*" existing

as they do primarily or solely on account of the work having been assembled and printed in Paris under conditions of censorship, and under conditions that were embraced willfully by the author and his co-conspirators as generators of textual instability.

Richard Ellmann's biography has Joyce saying: "I've put in so many enigmas and puzzles that it will keep the professors busy for centuries arguing over what I meant."

Masterworks in Terms of Context

There were six distinct editions of "*Ulysses*" printed during Joyce's lifetime, none of which were based on a single, intact manuscript source. Prior to its publication in Paris in 1922, several but not all of its episodes were published serially in magazines in the USA and in the UK (Gaipa et al. 2015).

As patrons of the literary arts became aware of Joyce's quickening trajectory toward being esteemed as the finest writer of his generation, Joyce's colleague Ezra Pound arranged for the constantly impoverished Irishman to create a composite "manuscript" of "*Ulysses*" specifically for the purpose of selling it as a fetish object (as opposed to its use being the generation of a printed artifact) in America.

The net result of Joyce and Beach and Pound's myriad decisions and actions around matters of composition and publication for the first edition of "*Ulysses*" and its progenitor drafts and variants is a structural design to the total work that permits and even generates ambiguity around what Joyce might have meant. And to the extent that the consequences of these decisions and actions depend on a blending of diegetic and nondiegetic space and place for their effects, the lens of information architecture is (arguably) essential to any attempt to describe the nature of the order of the work.

As such, I do not believe it is too much of a stretch to assert that the context within which Joyce composed, edited, published, corrected, and re-published "*Ulysses*" was inherently cross-channel. And yet, the structural integrity of its meaning inheres, even as creative and commercial forces push that meaning into, through, between, and across channels and touchpoints.

There is no one touchpoint, in fact, where the diegetic universe of the work exists intact. "*Ulysses*" may be the first work in English in the twentieth century whose information architectures can be said to cohere across channels but not within any particular one. And to the degree that these aspects of the work occur in at least two kinds of space (diegetic and nondiegetic), and can be described on the basis of a whole field of geometric and semantic interrelations, the verb which encompasses so many crucial acts of making both works—for Joyce and Wurman alike—is architecting.

Joyce's style of architecting *Ulysses* looks more like judo than karate: anticipating and incorporating the ebb and flow of artifacts in and out of the diegetic space where the work's meaning undulates. He accommodates. The way that Wurman architects information is more muscular, perhaps on account of having developed those muscles quite specifically through five years of architecture school at the University of Pennsylvania, and two years working in the practice of Louis Kahn.

Kicked Out of the Nest?

Louis Kahn is known to have placed extraordinary responsibility in the hands of very young practitioners in his office (Kahn, 2013). He entrusted the entirety of a complex project in England to 23-year-old Richard Saul Wurman, and Wurman told me that he was working on the Fisher House during the second year of his stint in Kahn's office when his boss and mentor suggested a change.

Lou asked me to come join him in his office, and he said Henry Kamphoefner was in from North Carolina State University in Raleigh and was looking for somebody to teach first and second year down there, and he thinks I should do it. He recommends that I do it, [and says] that Stanislaw (Siasia) thinks I should do it and Bob Geddes thinks I should do it.

I said, "You know, I feel like you're rejecting me." I didn't want to go. I didn't want to leave. So he pushed that aside and said, "I think it'd be good for you." He said, "Why don't you go over there and talk to him."

Siasia was known by Henry Kamphoefner because Matthew Nowicki's one masterpiece before he died very young in an airplane crash is in Raleigh,² and he taught at the school. And they both [Nowicki and Geddes] had recommended me. So... I mean: I felt strange. I didn't want to. I just bought a little house in Philadelphia. I had one child, Joshua, who was a little over a year old, and one on the way. But Lou... basically Lou said he thought I should do it, so I did it.

I mean it was that relationship. And I was young, and I hadn't taught. I was 25, I guess, and it wasn't just a walk-on: they were making me Assistant Professor of Architecture. And I taught first and second year. Two classes. They had maybe three sections. (Klyn, 2015)

It is clear that, for himself at a minimum, Kahn placed an extraordinarily high value on teaching. He taught unceasingly, even during times of great need for his presence at the office, saying "yes" to every invitation to give a speech, while also holding down a full-time professorship at Penn, and guesting intermittently at Princeton and Yale (Kahn, 2013). Did that range of classroom experience allow Louis Kahn to foresee the specific ways that teaching would affect young Richard Wurman's future practice?

Wurman told me that he now understands what his mentor was suggesting. Kahn knew it would be good for Richard to hear his own voice in the classroom, and to work through his ideas in front of the students. I cannot help but see what Kahn did there in 1961 as "kicking the chick out of the nest," and the near-immediate result was Wurman seizing what would turn out to be a marvelous opportunity for flexing his info-architectural muscles, and for stretching his wings. The opposite of the Icarus myth:

When I went down there, I wheedled my way into be the advisor to the student publication of the School of Design. The fame of the school was really based on that student publication,

²Dorton Arena was noteworthy for incorporating an unusual elliptical design by Matthew Nowicki, of the North Carolina State University Department of Architecture. It was listed in the National Register of Historic Places on April 11, 1973. Originally named the "State Fair Arena", it was dedicated to Dr. J. S. Dorton, former North Carolina State Fair manager, in 1961. From Wikipedia. Nowicki was chief architect of the new Indian city of Chandigarh at the time of his death in a plane crash in August of 1950, and was replaced by Le Corbusier.

and they had done some very good ones in the past; notable ones. I mean: remarkable publications (Klyn, 2015).

In his 1989 best seller “Information Anxiety,” Wurman extols the virtues of constraints, calling them “happy limitations.” Surely the pre-existence of an already-successful student publication, with its predetermined set of requirements, presented Wurman with specific constraints for structuring information and for rendering cartographic comparisons that would not have manifested up in Philadelphia, in the comfortably architectural nest of Kahn’s office.

As Wurman would go on to say at the age Kahn was when he kicked a young Wurman out of the nest: “comfort is the enemy” (Klyn, 2013).

Masterworks in Terms of Users

How many people have had their ability to be an actor in the interplay between works of art, their makers, and the means of production totally blown up and re-constituted by an experience with “*Ulysses*”? Far fewer, I suspect, than those who have read or have attempted to read Joyce’s novel in just one codex edition, without regard to the cross-channel ecosystem of meaning that pulses through and around the one touchpoint they hold in their hands—this one discrete version/edition coupling from among hundreds of thousands of possible combinations of version and edition.

I count myself among the former, but have had little success finding reliable figures to speak to the latter. What is the total number of copies of the book printed and/or sold since its first edition in Paris in 1922? Millions, it would seem. And unlike a radical work of art that exerts an outsized influence on the next several generations of artists, but realizes little or no commercial success during its day (I am thinking about that first Velvet Underground album), the esteem accorded to “*Ulysses*” once it broke free from obscenity constraints on its commercial availability drove and still drives a more-than-just-a-cottage industry in products and services.

In contrast, Wurman’s “Sand Models” book was printed in an edition of 1500, and that was it. As would become the pattern with all but a handful of the 100+ books Wurman did forward from 1963: there’s only one edition, in just one printing.

We sent it to a couple hundred people who were on our student publication list and then all of a sudden, we had a thousand copies I think, and they were gone.

Then we started getting things back: a Norwegian architectural magazine put some of them on the cover. *L’Architecture d’Aujourd’hui*, the fancy architecture magazine in Paris, made it the frontispiece. Yale School of Architecture mounted (the plates from the 1963 edition) into an exhibit, and it was up for 25 years.

The near-mythic status “The City, Form, and Intent” would go on to attain among cartographers and urban planners may have had something to do with its scarcity as a physical artifact: it is impossible to know for sure. Wurman’s subsequent projects in cartography would take on even more fabulous modalities, 1966’s “Urban Atlas”

being the most fabulous of all (Passonneau & Wurman, 1966), earning a recommendation from Denise Scott Brown that it be acquired as a highly valuable piece of Op Art (Scott Brown, 1969).

Wurman as THE User

Any other candidate proofs for establishing that “The City, Form and Intent” is a masterwork of information architecture in the dimension of use and users show up as incidental compared with the impact of the work on its maker.

It (the 1963 Sand Models book) just got to be known. And I said, “What is this?” I thought this must have been done a hundred times before. And the revelatory thing was that nobody had ever done it. And I said, “Holy Moly! You know, I backed into, you know, dog poop here...in some terrific way.” That uh...here’s my life laid ahead of me. I could just do this! If this hasn’t been done, man; there’s a lot of things that hadn’t been done comparatively.³ And I thought that was all I was going to do for the rest of my life. And indeed it seemed that way because for the first few things, that’s all I did. Then I didn’t. And now I’m doing it again (Klyn, 2015).

What Wurman meant by “doing it again” in the passage above is a project called “The Urban Observatory,” an idea he first described as a concept in 1967, and then published in *Design Quarterly* in 1971. It was realized 47 years later by the engineers and designers at Esri in 2013 as a web-based application (Dangermond and Keegan 2013). And as had been the case with all but a handful of the books and conferences he had designed previously, the “user” of the product in question, whose needs and preferences would drive key decisions about the architecture, was Richard Saul Wurman.

In ways that are profoundly opposite to Joyce’s provisional architectures of cross-channel information, where ambiguity, evanescence, and multiple readings of the “same” contents are brought about on purpose, as a function of the information architecture, Urban Observatory uses equalized cartographic scales and demographic datasets across disparate information layers to provide unambiguous, user-driven comparisons among “vertical” seams in info-architectural space (Benyon & Resmini, 2017), through the touchpoint of a website.⁴

What It Takes to Architect a Masterwork

For information professionals who are primarily working on screens and digital interfaces, what strategies might we apply to what we are doing, and how we are

³Wurman would go on to publish several more books based in comparative cartography, including *The Urban Atlas* (1966), *Man Made Philadelphia* (1972), *US Atlas* (1990, 1991), and *MAP* (2017).

⁴Urban observatory. <http://urbanobservatory.org>.

doing it, knowing (as we now do) at least a handful of the shared characteristics of fine examples of information architecture from the twentieth century?

It depends. And here's what it depended on, for Joyce and Wurman alike: the constant involvement of the architect in practically every aspect of the production and marketing. Neither of the information architecture development processes that resulted in the manifestation of these two works under consideration in the present discussion is characterized by "the architecture part" happening first, and being deemed complete, before design and production got underway. Rather, the information architecture was under development at every step, from inception to manufacture. In both cases, in fact, the work continued to be architected even after initial publication in a first edition.

So, if the necessary prerequisite to the realization of an information architecture masterwork is complete involvement by those doing the architecting, from start to finish, and even beyond the finish, and before the beginning (Wurman, 1989), the likelihood of such works emerging in the present screen-based milieu seems low given that specialists in information architecture are most often involved in audits, and blueprints, and plans; as contrasted with engineering, construction, and production. As long as information architects are practically unknown in the development teams that build software, and who operate in the so-called 2nd diamond (Wearing and Cruickshank 2013) of contemporary design process, the most fruitful direction for seeking out additional candidate masterworks of information architecture might continue to be backward. As the prophet said:

We look at the present through a rear-view mirror. We march backwards into the future.
(McLuhan, 1964)

References

- Amoroso, N. (2010). *The exposed city: Mapping the urban invisibles*. Oxon, UK: Routledge.
- Bachelard, G., & Jolas, M. (1994). *The poetics of space: The classic look at how we experience intimate places*. Boston: Beacon Press.
- Benyon, D., & Resmini, A. (2017). *User experience in cross-channel ecosystems*. Proceedings of the British HCI Conference 2017.
- Bloomer, K. C., & Moore, C. W. (1979). *Body, memory, and architecture*. New Haven: Yale University Press.
- Dangermond, J., & Keegan, H. (2013, Fall). Urban observatory opens lens into comparative understanding. *Esri*. <https://www.esri.com/about/newsroom/arcnews/urban-observatory-opens-lens-into-comparative-understanding/>.
- Devlin-Glass, F. (2004). Who "curls up" with "Ulysses"? A study of non-conscripted readers of Joyce. *James Joyce Quarterly*, 41(3), 363–380. <http://www.jstor.org/stable/25478065>.
- Ellmann, R. (1983). *James Joyce*. New York: Oxford University Press.
- Kahn, N., HBO/Cinemax Documentary Films. (2013). *My architect: A son's journey*.
- Kidd, J. (1989). *An inquiry into ulysses—The corrected text*. Boston: James Joyce Research Center, Boston University.
- Klyn, D. (2013, August 20). Dumb: 5 patterns from the life and work Of Richard Saul Wurman. *UX Week*. <https://vimeo.com/74401319>.

- Klyn, D. (2016). A comparison in pursuit of “The masterworks of information architecture”: Learning from James Joyce’s *Ulysses* and Richard Saul Wurman’s the city, form and intent. *Bulletin of the American Society for Information Science and Technology*, 42.(5). <https://doi.org/10.1002/bul2.2016.1720420508>.
- Klyn, D. (2015). *Previously unpublished interviews with Richard Saul Wurman*.
- Mahaffey, V. (1988). *Reauthorizing Joyce*. Cambridge University. Press.
- McLuhan, M. (1964). *Understanding media*. MIT Press.
- Passonneau, J., & Wurman, R. S. (1966). *Urban Atlas: 20 American cities: A communication study notating selected urban data at a scale of 1:48,000*. MIT Press.
- Resmini, A., & Rosati, L. (2011a). A brief history of information architecture. *Journal of Information Architecture*, 3(2). <http://journalofia.org/volume3/issue2/03-resmini/>.
- Resmini, A., & Rosati, L. (2011b). *Pervasive information architecture*. Morgan Kaufmann.
- Rosenfeld, L., Morville, P., & Arango, J. (2015). *Information architecture: For the web and beyond*. O’Reilly.
- Rossmann, C. (1988). The new ‘Ulysses’: The hidden controversy. *New York Review of Books*, 35(19). <https://www.nybooks.com/articles/1988/12/08/the-new-Ulysses-the-hidden-controversy/>.
- Scott Brown, D (1969). On pop art, permissiveness and planning. *Journal of the American Institute of Planners*, 35, 184–186. Reprinted in Scott Brown, D. (2009). *Having words*. Architectural Association (pp. 55–59).
- Shillingsburg, P. (2006). On being textually aware. *Studies in American Naturalism*, 1(1–2), 170–195. <http://www.jstor.org/stable/23431282>.
- Wareing, L., & Cruickshank, L. (2013). *New design processes for knowledge exchange tools for the new IDEAS project*.
- Wurman, R. S. (1974). *Cities: Comparisons of form and scale: Models of 50 significant towns and cities to the scale of 1:43,200 or 1” = 3,600’*. Joshua Press.
- Wurman, R. S. (1963). *The city, form and intent: Being a collection of the plans of fifty significant towns and cities all to the scale 1:14400*. North Carolina State University.
- Wurman, R. S. (1990). *Information anxiety*. Bantam Books.
- Wurman, R. S. (1971). Making the city observable. *Design Quarterly*. No. 80. MIT Press.
- Wurman, R. S. (1972). Invisible city. *Design Quarterly*. Nos. 86–87. MIT Press.
- Wurman, R. S. (1989). Hats. *Design Quarterly*. No. 145. The MIT Press.
- Wurman, R. S. (1997). *Information architects*. Graphis.
- Wurman, R. S. (2017). *Understanding Understanding*. Oro.

Dan Klyn works as an information architecture and business management consultant at The Understanding Group (TUG), teaches information architecture at the University of Michigan School of Information, is a member of the core faculty in the architecture program at Building Beauty, and is writing the biography of Richard Saul Wurman. His research is focused on the spatiality of meaning, with an emphasis on the interplay of ontology, topology, and choreography in the built environment.