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*

by Dan Klyn

How We Create Meaning

EDITOR'S SUMMARY

In a search for classic works on information architecture, Joyce's *Ulysses* and Richard Saul Wurman's *The City, Form and Intent* are each compared internally across different versions and considered in terms of content, context and user. Each author modified readers' experiences through changes in the content and physical form of their works. Wurman's 1963 work, a loose-leaf collection reflecting architecture through clay models of cities, was redone in 1974 with the same content but different physical presentation. Joyce's *Ulysses* was marked by variations across versions, with omissions, additions and typographic errors carried inconsistently through editions, leaving the author's intended meaning ambiguous. The context of Wurman's work was the very early stage in the author's career. The context of production of *Ulysses* involved composition, editing, publishing, correction and republishing across multiple channels, making consideration of the totality of the editions key to understanding the information architecture of the work. Users of Wurman's original print work exalted it, while users of a 2014 spin-off web project see it from a different perspective. Similarly, the user experience for *Ulysses* varies widely, depending largely on which edition is read. The analysis and internal comparison of the two works highlight the importance of both content knowledge and technical skill throughout any information architecture project. Whether they will serve as masterworks for the field remains an open question.

KEYWORDS

information architecture	user experience	modification
core literature	information content	
comparison	contextual information	

The most fundamental argument that picture makers make is indexical. I base this on my own generalized experiences working as an information architect since 1998 and specifically on a quote from an essay by William J. Mitchell in 1994:

The photographer is more of a pointer than a painter [1, p. 194].

To my way of seeing, *all* picture making is pointing, insomuch as distinctions are being made between what is and is not encompassed by the picture. Choices in demarcation for what's "in frame" and what's not build a simple index that's powerful enough to encompass the entire universe: this (picture) is not that (everything else).

That being said, it's often impossible to reverse-engineer a holistic model of the picture-maker's more prosaic arguments from a single instance of a canvas or of a photographic print.

But with two pictures, it's a wholly different situation.

With two pictures, the process of comparison begins to unlock understanding. Fruitful investigation may now proceed, without the need to wait for expert assistance.

During my time as an undergraduate English literature student at the University of Michigan, I split my time between reading 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

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– to learn that he had no particular interest in bicycles. He said he'd decided to buy a bike shop because his training in the 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 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.

I never forgot that lesson in conducting an effective comparison in the absence of expertise. And through many years of trial and error in my practice, I've come to realize it's an equally powerful approach for experts. I wonder if it's even more important as a tool for experts, who so easily lose track of the (proverbial) forest in concert with the increase of their expertise with a particular kind of (metaphoric) tree.

Table Stakes

Some comparisons are more powerful than others. It strikes me as reasonable (if not essential) to establish some table stakes for the game of identifying and evaluating supposed masterworks in order to better ensure the cross-comparability of the features of the examples put forward as exhibits, especially if the value of a given comparison is proportional to the number of features that are available to compare.

To these ends, and by way of example, I propose modeling the criteria for entry into the consideration set for *masterworks of information architecture* within the three dimensions used across four editions of the industry standard primer on information architecture: aka the *Polar Bear Book* (Figure 1).
Content. There should be significant quantities of it. In multiple formats, with synchronous and asynchronous patterns of generation and consumption. It seems impossible that a work of information architecture could be considered capable of achieving the rank of "masterwork" in spite of the quality of its content. And further, wouldn't we expect to find the great works of
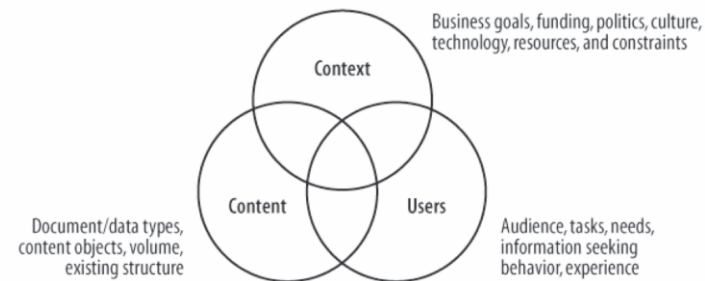
FIGURE 1.
The three circles of information architecture
[2, p. 32]

information architecture standing in places where content is king and where the kingdom had been unruly and badly governed prior to the creation of these architectures?
Context. The context I would most expect to find a masterwork of information architecture having emerged within is one that's inherently cross-channel [3], with information pulsing through pervasive layers in blended spaces. Contexts where issues like provenance, authorship, language, versioning and legal compliance are highly complex and demonstrably problematic.
*Users.* In my experience, a difference in scale is often a difference in kind. In light of this, I would suggest that candidate masterworks of information architecture be available to if not directly experienced by vast numbers of people; ideally, from a multitude of cultural and socio-demographic backgrounds.

On these bases for admission into the consideration set for masterworks of IA, I propose a comparison of the info-architectonic approaches employed by James Joyce in his 1922 epic *Ulysses* [4] and those we can appreciate in the realization of Richard Saul Wurman's 1963 publication, *The City, Form and Intent* [5].

Considerable Similarities

It was in 2012 that I first began considering similarities between the makers of what I'm proposing as two masterworks of IA – 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 be so comparable. 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.

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FIGURE 2. Richard Saul Wurman at his high school graduation
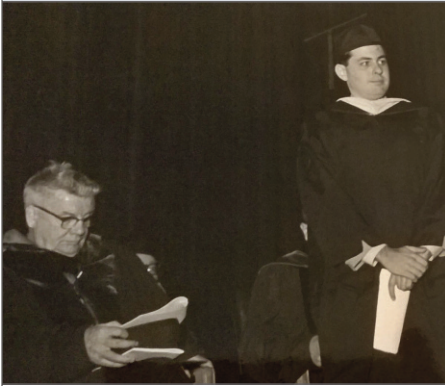
But the similarities between these two author-architects and between these works of theirs are considerable.

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; Mr. 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 2the former, Dr. Lloyd W. Ashby, principal at Cheltenham High School in Elkins Park, Pennsylvania, refused to shake young Wurman's hand at graduation (Figure 2).

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*, it might 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 [7][8].

For his part, Richard Saul Wurman relied on close collaboration in manufacturing with a pioneering offset lithographer by the name of Eugene Feldman. When I asked him in a recent interview, Wurman remarked that Feldman

…was well known as an experimental printer. He was my collaborator on the Lou Kahn book [9]: I designed it, but I gave him 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. He taught me about printing [6].

Masterworks in Terms of Content: The Sand Models Book

That book on Lou Kahn [9] – designed and edited by the then-25-year-old Wurman – was the first of many Kahn-related projects Rick and Gene (as Kahn called them) did together at Falcon Press in Philadelphia, up until Kahn and Feldman's untimely deaths in 1974 and 1975, respectively.

The book project immediately following *The Notebooks and Drawings of Louis I. Kahn* [9] was Wurman's second mature foray into the architecture, design and manufacture of a print publication, but I consider it to be the world's first self-consciously info-architectural work.

The title as given is *The City, Form and Intent: being a collection of the plans of fifty significant towns and cities all to the scale 1:14400*. It was created by Wurman in response to the library at the University of North Carolina in Raleigh not being able to provide the maps he required for teaching second-year architecture. When you ask him about it today, Wurman refers to this work as his Sand Models Book (figures 3, 4 and 5):

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 square: because I knew I could do every model and reduce it in half and have it 8½ inch a square, 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 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 as a screen and that even gets rid of any other imperfections, and it makes it look more like sand models: more hand done. And that's how I did the book. And we printed it. [6]
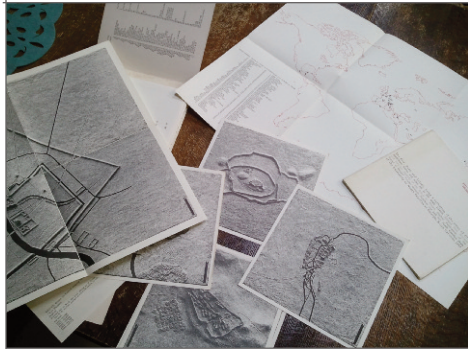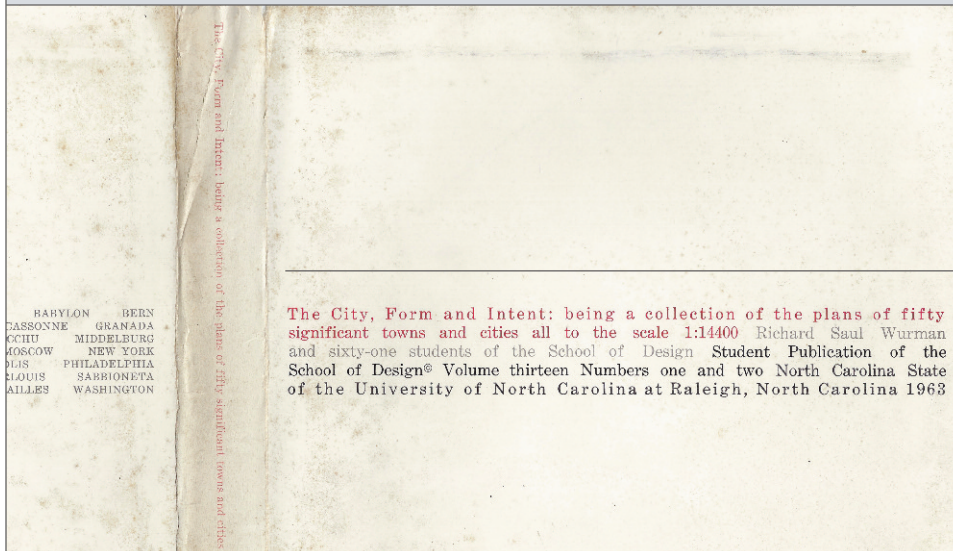

FIGURE 3. Contents from Richard Saul Wurman's loose-leaf book, *The City, Form and Intent* (1963)

The resulting publication manifested the fractal core of Wurman's concept of the architecture of information. It's 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.

FIGURE 4. Slip cover of *The City, Form and Intent* (1963)

The City, Form and Intent: being a collection of the plans of fifty significant towns and cities all to the scale 1:14400 Richard Saul Wurman and sixty-one students of the School of Design Student Publication of the School of Design® Volume thirteen Numbers one and two North Carolina State of the University of North Carolina at Raleigh, North Carolina 1963

Wurman involved the entire second year architecture class for four weeks in the production of the plans of 50 towns and cities in kindergarten clay at the same scale. In so doing, Wurman ensured his students' ability to understand any one particular city or town by way of facilitating a calibrated comparison with one or more of the other 49 [10]. 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.

FIGURE 5. Side-by-side comparison of loose sheets marked with Roman numerals XLIV and II, plates 44 and 2, respectively showing the plans of Savannah, Georgia, and Amsterdam, Netherlands, from *The City, Form and Intent* (1963)
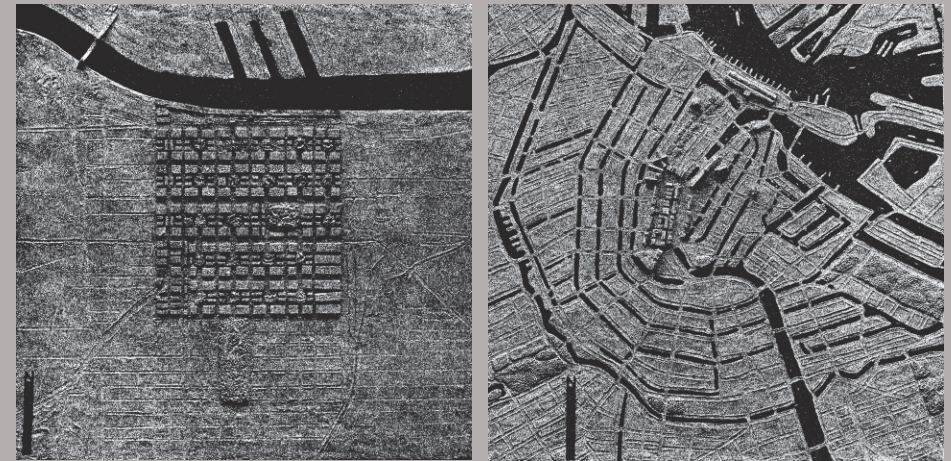

The content strategy for the project produced by Wurman and his students in North Carolina in 1963 is isomorphic to the very specific context and users for the project, even while its physical realization is polymorphic and functions on the basis of a loose coupling of words and pictures from a structural and spatial perspective.

Part of what gives me the confidence to propose the 1963 edition as a masterwork of information architecture is comparison with an edition of the work that Wurman printed in 1974 under his own Joshua Press imprint (Figure 6) [11].

FIGURE 6. Sample pages from Wurman's *Cities: Comparisons of Form and Scale* (1974)
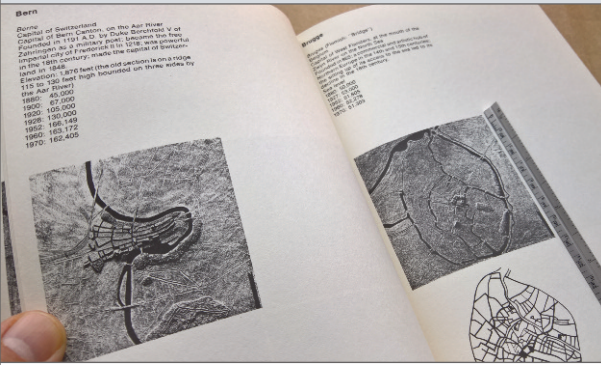
The 1974 version provides access to the same content. Presented in an inexpensive perfect-bound codex and comprising *all* of the pictures and words from 1963, one could argue that it's a more user-friendly edition. It was certainly a more commercially viable way to make it possible for more people to access the ideas and information. It's also a manifestly inferior object, whose architecture is at odds with the purpose that generated the work in 1963.

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 – simply doesn't mean the same thing and doesn't operate in the same way.

Masterworks in Terms of Content: The Scandal of Ulysses
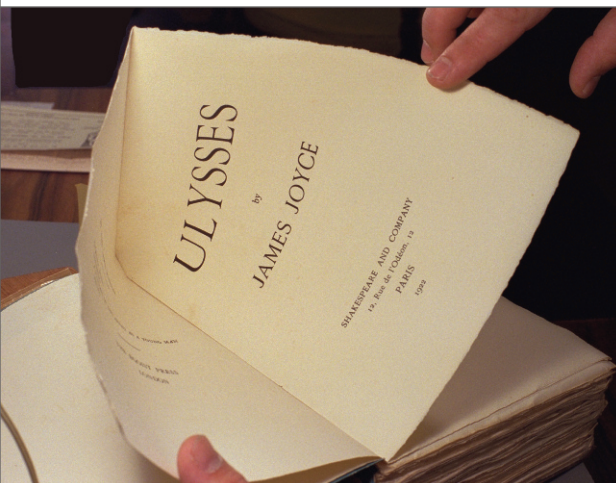
FIGURE 7. Copy #26 from the first printing of the first edition of *Ulysses* from the collection of the Detroit Public Library. This copy has presumably never been read (the pages are not cut) and is one of 100 copies from the *edition de luxe* printed on handmade Dutch paper and signed by the author. A copy similar to this one is offered for sale for £250,000. Photograph by Shane Davis

How to introduce, especially to those who've not yet read or examined it, what's widely esteemed as the 20th century's ultimate work of fiction in the English language? How might one better equip people who understand information architecture, but who've not yet read the novel, to appreciate the thing? 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.* [12]

Joyce's use of Homer's *Odyssey* as a structuring device for the actors and actions in the story is widely known and used by today's readers, many of whom would have been assigned interpretive aids [13] 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 18 numbered-but-not-named episodes that comprise the work would have seemed *non sequitur* in relation to the 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.

The loose-leaf "book" Mr. Wurman brought out in 1963 was and is capable of meaning something different, and in more complex and extraordinary ways, than is possible and available for people from 1974 forward, who have only interacted with the subsequent codex version. In the same way, 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 and the process of its realization as a made object, to such a significant degree, I will argue, 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 *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.

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 and the orientation of the postage stamp – even the smell of the paper – would be considered instrumental to the meaning that's been created. These elements are not merely ephemera necessary to delivering a payload of "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 work: the blue of the wrapper (Figure 8). Basic historical research finds myriad witnesses to the fact of its having been selected by Joyce to evoke the hue of the Greek flag. Understanding this particular artifact of the realization of the work as codex in 1922 enriches the reader's experience with any other version or edition. It may even embolden the reader to interpret other color

FIGURE 8. Wrapper of James Joyce's *Ulysses*
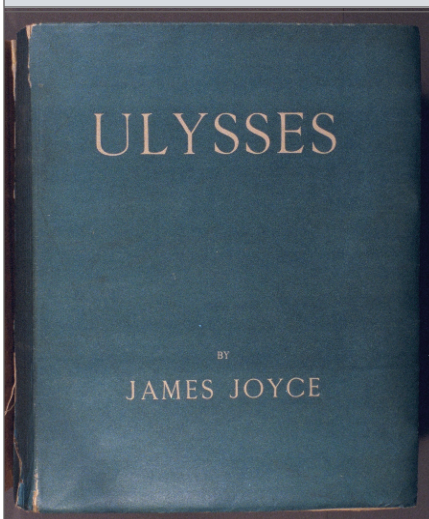
choices for cover stock and binding cloth in the editions Joyce is known to have been involved in the manufacture of as authorial.

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 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" [14], the typist's error *Kildere* can be corrected to *Kildare* through collation across other versions and editions [15].

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* that exist primarily or solely on account of the work having been assembled and printed under conditions of censorship [16].

Composing a manuscript, having it typed for correction and then getting those corrections into typeset proofs for additional corrections and then finally into press sheets for manufacture into a bound book was a necessarily secretive and inherently error-ridden process for *Ulysses* on account of the need to be working with typists who did not read English. The operative logic: a typist could not be prosecuted for playing a role in the manufacture of an obscene text that they were themselves unable to comprehend as obscene.

The experience that was made available to readers when *Ulysses* first appeared was one wherein it was hard to know if and when the aspects of the work one might begin appreciating in terms of advancing the narrative or creating an allusion might just as well be the interpolation of a typist. The location of the edges one might like to use in marking-off authorial intent from artifacts of non-authorial process are, much like the boundaries within which the info-architectural systems of *Ulysses* operate, somewhat blurry as a result.

I see Joyce making info-architectonic decisions to regulate his readers' posture along their procession into *Ulysses*' diegetic space through his embrace of a production process that guaranteed an uncertain situatedness for any particular structural feature. Is there a hidden numerology based on the interplay between events in diegetic space and the pagination of one or more of the versions or printings during Joyce's lifetime? [17] The nature of the marking that constitutes the last piece of content in the *Ithaca* episode: in some versions it's a circular dot, but in others, a more square-ish bullet. The dot is absent from some but not all copies of the first edition. Which is closer to what Joyce meant? Which is closer to what can be proven through textual and editorial scholarship to have been written? Just what constitutes

FIGURE 9. Publisher Sylvia Beach's note from the first edition of *Ulysses*

The publisher asks the reader's indulgence for typographical errors unavoidable in the exceptional circumstances.

S. B.

true authorial meaning is precluded by, as Ms. Beach printed on the endpapers of the 1922 edition, "the exceptional circumstances" (Figure 9).

Adding injury to the insult of omissions, additions and typographic mistakes in the 1922 Paris edition, there is one especially poignant moment in the text that hinges on an authorial typographic error that Joyce architected into the fabric of the diegetic space of the story. According to an interpretive theory supported by Richard Ellmann, based on the textual scholarship of Hans Walter Gabler [18], the author of *Ulysses* intended the characters in his story to experience (and for the reader to notice and marvel at) a telegraph agent's error in the transcription of an urgent message from Simon Dedalus in Dublin to his son Stephen in Paris:

Nother dying come home father [19]

What did Joyce mean? What did Simon Dedalus mean? How should Stephen interpret the telegram? How should we? This particularly evocative "misspelling" is absent in the 1922 first edition of *Ulysses* and all editions prior to 1986. Should this reading be restored to all editions forward from 1986?

Other less-controversial and more assuredly author-intended spelling mishaps are riddled throughout the text: Joyce's hero's name is misspelled "Boom" in a newspaper account of mourners at a funeral. Bloom elsewhere refers to the newspaper in question as being a "throwaway," an utterance another character overhears as a tip for betting on a horse named *Throwaway*. Bloom's would-be mistress playfully scolds him for his phraseology in a love note and says that she does not like "that other world" – this errant letter "l" appearing in a *billet-doux* that's addressed to Bloom under his *nom de plume* Henry Flower.

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." [20]

Masterworks in Terms of Context: *Ulysses*: Haveth Versions Everywhere

There were six distinct editions of *Ulysses* printed during Joyce's lifetime, none of which were based on a single, intact manuscript source [21]. Prior to its publication in Paris in 1922, several but not all of its episodes were published serially in magazines in the United States and the United Kingdom. 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). My characterization here differs from the way the Rosenbach Library describes the provenance and context around the "manuscript" in question.

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.

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 channel, in fact, where the diegetic universe of the work exists intact. *Ulysses* may be the first work in English in the 20th 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 in terms of a whole field of geometric and semantic inter-relations, the verb which encompasses so many crucial acts of making both works – for Joyce and Wurman alike – is *architecting*.

Joyce's brand 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 several years working in the practice of Louis Kahn.

Masterworks in Terms of Context: Wurman: Kicked Out of the Nest?

Louis Kahn is known to have placed extraordinary responsibility in the hands of very young practitioners in his office [22]. Kahn entrusted the entirety of a complex project in England to the 23-year-old Wurman, and Wurman notes that he was working on the Fisher House during the third year of his apprenticeship in Kahn's office when his boss and mentor suggested a change.

Wurman: [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 Sasha Nowicki thinks I should do it and Bob Geddes thinks I should to 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."

Klyn: Was he kicking you out of the nest?

Wurman: He said, "I think it'd be good for you." He said, "Why don't you go over there and talk to him." Sasha was known by Henry Kamphoefner because Nowicki's one masterpiece before he died very young in an airplane crash is in Raleigh, 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 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 [6].*

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, taking positions at Penn, Princeton and Yale. Did that range of classroom experience allow Kahn to foresee the specific ways that teaching would affect young Wurman's future practice?

I see what Kahn did there 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 to flex his architectural muscles and stretch his wings. The opposite of the Icarus myth:

Wurman: [The school] was sort of interesting – much more interesting than it should have been, being in Raleigh. I had been more than dabbling in graphic design, so when I went down there, I wheedled my way in to be the advisor to the student publication. The fame of the school was really based on the student publication, and they had done some very good ones in the past; notable ones. I mean remarkable [6].

In his 1989 bestseller *Information Anxiety*, Wurman adds the word *happy* to the word *limitations* [23]. Surely the pre-existence of requirements for governing an already-successful student publication – not the least of which being budget, format and skill level of participants – were exerting their force on Wurman in ways that would never have happened up in Philadelphia in the nest of Kahn's office.

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

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suspect, than those who have read or have attempted to read the 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 among hundreds of thousands of possible combinations.

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 has huge influence on the next three generations of artists, but little commercial impact during its day – I'm thinking about *The Velvet Underground & Nico* (Verve records, 1967) as just one example – 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, only one edition, in 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 France 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.* [6]

The near-mythic status that *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. Subsequent projects in cartography would take on even more fabulous modalities, 1966's *Urban Atlas* [24] being the most fabulous of all, earning a recommendation from Denise Scott Brown that it be acquired as a highly valuable piece of *Op Art* [25, p. 24].

Wurman as User

The proof in the pudding for *The City, Form and Intent* being a masterwork of IA in terms of users is best considered, I submit, not so much in the terms set forth at the start of this article and used in appreciation of the first edition of *Ulysses*; rather, its status as a masterwork in terms of the dimension of "users" must be tweaked to appreciate the impact on its maker.

It [the 1963 Sand Models book] just got to be known. And I said, "What the fuck 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. 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. [6]

What he meant by "doing it again" in the passage above is a project called the Urban Observatory, first described as a concept by Wurman in 1967 and published in 1971[26] and then realized 47 years later as a web-based application in 2014. In ways that are profoundly opposite to Joyce's provisional architectures of cross-channel information, Urban Observatory uses equalized cartographic scales and demographic datasets across disparate information layers to enable users to create and compare their own vertical seams in the info-architectural space through the touchpoint of a website, www.urbanobservatory.org. [26]

What We Can Learn From Masterworks of Information Architecture

As Makers. For information professionals who are primarily working in terms of screens and digital interfaces, what strategies might we apply to what we're doing and how we're doing it with the benefit of this comparison?

KLYN, continued

I have the conviction that what's clearly a necessary pre-condition on both sides of this comparison is for the architect to possess the combination of "relational capital" and technical expertise to play an instrumental role in the commercial and manufacturing aspects of the project. Neither of the information architecture development processes that resulted in the manifestation of these two works had a stopping point. The information architecture was in development at every step, from inception to manufacture. In both cases, in fact, the work continued to be architected after initial publication in a first edition.

As Participants and Observers. How will you or I know the other masterworks of information architecture when we see them? I believe that until additional candidate works are identified and subjected to the crucible of comparison, we remain in a mode as observers and participants seeking to appreciate these masterworks that's not entirely dissimilar to the mode that was prevalent in the United States in the 1930s with regard to pornography; until some rigor is brought to the matter, we're left with, "I know it when I see it."

Technical Reviewers

Facts about the Wurman material were checked by Richard Saul Wurman.
Facts about the Joyce material were checked by Dr. John Kidd.
Use of Resmini's cross-channel model checked by Andrea Resmini. ∎

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