

See Also:
Between Print and Image in Indexical Media

The word “index” has primarily two senses. The first is bibliographic: a systematic, organizing description used to aid the search of literature (whether academic or otherwise), that is typically included as a ‘section’ at the back of a print object, mediating the searcher’s relationship to the text. The second, and etymologically more recent use of the term, is the scientific sense denoting a scale or register of an entity with respect to some quantitative value, such as a diversity index in the biological sciences or a cost of living index in economics. These two senses may seem quite different at first because they apply to different types of information, but at a foundational level they both involve the employment of a particular semiotics. The tripartite theory of iconic, indexical, and symbolic signs put forward by Charles Sanders Peirce has considerable influence in semiotic practice, and is discussed not only by specialists, but in a wide range of fields including literary history, library science, communications, and art criticism. Peirce’s formulation of the index is often referred to as the aspect of a sign that is ‘really affected’ by its object; he provides the examples of a weathercock’s indexicality to the direction of the wind, or a photograph’s indexicality to the objects depicted. However, the deployment of Peirce’s indexicality in criticism is often brief and reductive, as it would have to account for a complex web of interrelations between iconicity and symbolism. I want to suggest that engaging a semiotic understanding of indexicality with a material history of the other thing we call an index — that is, in the bibliographic sense — we will come to a better understanding of how to make practical and theoretical use of this concept.

James Elkins' Art Seminar on photography sets up indexicality as a central issue in discussions and debates over photographic and other types of image-based representation since the late 1970's. Whatever conclusions are drawn from this debate, it reveals that using indexicality as a model for the relationship between an image and the object it represents is controversial. The core of the disagreement of this issue is perhaps best read through the confrontation between Rosalind Krauss and Joel Snyder. Krauss wants to hold on to the idea that photographs have a direct relationship to their objects: for her, "Every photograph is the result of a physical imprint transferred by light reflections onto a sensitive surface" (203). For Snyder, this may be true, but it isn't a necessary relationship. He states that "When people talk about indexicality, they generally confuse photons with objects, and they think it is objects that are necessarily indexed by photographs. It may very well be the objects that are indexed, but nothing in the way of an object need be indexed by a photograph" (131). It seems as if here Snyder wants to affirm photographic representation, which is made available to be indexed *after* the film is developed. Despite the fact that Snyder doesn't seem to win over the other participants in the seminar, I want to argue that his position is more in line with Peirce's tripartite formulation as well as the function of the index in print history. But before turning to the print index, I'd like to say a bit more about why Krauss's position might be misleading.

In her famous essay on the role of the index in 70s art, Krauss writes that "indexes establish their meaning along the axis of a physical relationship to their referents. They are the marks or traces of a particular cause, and that cause is the thing to which they refer, the object they signify" (198). This 'physical trace' of the object finds its

expression in tracing, moulding, and impression, but not in the “pictorial language” of drawing and painting. This is perhaps best expressed in her evocation of Duchamp’s *With My Tongue in My Cheek* (1959). In this self-portrait, Duchamp makes a sketch of his profile, on top of which he places a plaster cast of his chin and cheek. For Krauss, this “manifests as a kind of trauma of signification” which juxtaposes the indexicality of the cast with the iconicity of the drawing. This fracture in signification is too easy to properly fit in with Peirce’s semiotics, where there are always ‘degenerate forms’ of iconicity within the index and vice versa. But more importantly it seems to preclude representations from being ‘really affected’ by their object by virtue of not being physical enough. After all, the particular configuration of Duchamp’s pencil across the page would not exist without the living artist.

Peirce evaluates what he calls the degree of ‘degeneracy’ of a sign from its object. “A Sign degenerate in the lesser degree, is an Obsistent Sign, or *Index*, which is a Sign whose significance of its Object is due to its having a genuine Relation to that Object, irrespective of the Interpretant.” Peirce writes, “Such, for example, is the exclamation “Hi!” as *indicative* of present danger¹, or a rap at the door as indicative of a visitor” (vol 2, n. 92). So for Peirce, an index is a sign that can indicate or call attention to its object regardless of the viewer or interpreter. This is how we can observe a portrait of someone we’ve never known as an obsistent or indexical sign, that is, as an *effect* produced (through the artist) by the physical appearance of the portrait’s subject. Peirce writes that “an index represents an object by virtue of its connection with it. It makes no difference whether the connection is natural, or artificial, or merely mental” (vol 8, n. 23). In the

¹ An exclamation obviously outdated in contemporary usage.

bibliographic sense of the term, this connection is a way of ‘finding’ or ‘retrieving’ information by directing the reader’s attention to a certain place within the text. In connecting to a certain point (usually designated by page number), other information is then excluded or excommunicated by virtue of falling outside of the connection made by the index. Here a distinction should be made between information surrounding the designated term (the rest of the page, or text immediately surrounding the designation), and excommunicated information (all other undesignated pages, other ‘unused’ items in the index). While we have a theory that accounts for the former, the latter seems to go unaddressed. If we think about this in terms of the indexicality of a photograph, we should be aware of how attributing it strictly to ‘the objects depicted’ might excommunicate information that isn’t present in mere objects. The index should extend its epistemic purchase from beyond mere presence to the information that can be derived from it.

Peirce stresses that “collateral” experience, observation, and acquaintance are requirements for the proper functioning of an index. As a philosophy of communication, this kind of knowledge is “not the kind of knowledge that may be obtained by a sign system,” and is rather the object of communication “as understood in its dynamical aspect – that is, as experiential” (Bergman 139). Those involved in an act of communication have to draw upon their previous experience in order to have some common ground about the matter being discussed. It is precisely because of the need for collateral experience that we should put an emphasis on indices. If there are no pure descriptions, we need them to designate a relational structure on which understanding can be achieved. This structure is definitively an experiential ground relevant to the ‘frame’ set out by the

index, and not some mysterious flow of information. Thinking about this in terms of the reader/writer relationship, it is important to keep in mind that this experiential ground isn't necessarily actual, lived experience. We can always have understanding of fictional worlds, but even within imagined experience there has to be collateral experience. But it is precisely this dynamic/experiential information that gets overshadowed by a purely physical account of the index; by "representing an object by virtue of its connection to it" we lose the other connections it makes.

I'd like to turn now to an account of the emergence of bibliographic indexes in early print culture, because I think Snyder's account of indexicality in the image is closer to what book indexers do with words, and by focusing on its historical origins we get a fuller view of its relation to media as such.

John Guillory's excellent overview of the origin of the concept of mediation situates the emergence of theories of communication as fundamental to the development of media theory. Although the term comes up in Aristotle, Guillory asserts that it is not until the early modern period, with the remediation of speech in print, that the medium as such comes into view. This is not just a shift in technology but a realization about the hidden potential of technology; "The transposition of writing into print did not elicit at first a theoretical recognition of media as much as a reflection on the latency of print in the technology of writing itself" (324). In Guillory's narrative, an important thinker for the conceptualization of the communication function is Francis Bacon, who attempts to describe the relationship between thought and the technical means of writing. Bacon focuses on how nonalphabetic Chinese characters ("Characters Real, which express neither letters nor words in gross") break free of speech, affirming the potential for

standardized/technical representation of thought as an instrument of communication.

Guillory brings this affirmation into dialectical relation with Thomas Hobbes, who sees the invention of print as ‘no great matter’ because it follows so closely from letters, and instead asserts *speech* as the mode of communication more capable of conveying thought. What is interesting about Hobbes’ demotion of print is that it reveals something integral to the development of organization and standardization techniques:

The generall use of Speech, is to transerre our Mentall Discourse, into Verbal; or the Trayne of our Thoughts, into a Trayne of Words; and that for two commodities; whereof one is, the Registering of the Consequences of our Thoughts; which being apt to slip out of our memory, and put us to a new labour, may again be recalled, by such words as they were marked by. So that the first use of names, is to serve for *Markes*, or *Notes* of remembrance. (25)

Here, the material quality of the *Markes* and *Notes* provides a function that is unavailable at the level of oral culture, that of remembrance and retrieval. Despite the fact Hobbes is trying to preserve a cognitive to verbal model of communication, he puts his finger exactly on the advantage of print over speech, that is, the facilitation of ‘remembrance.’ While these two thinkers differed in their theoretical focus on the relationship of text to writing, they both were very concerned with how the emergent medium of print could be used by sources of power to manipulate and control.

Elisabeth Eisenstein’s seminal *The Printing Revolution in Early Modern Europe* describes features of early cataloguing and codifying text data. She points out that the emergence of indexing can not simply be attributed to something like ‘the standardization of type,’ but rather, coincides and is made possible by a multitude of other properties that print produces, such as reproducibility, alphabetization as an organizational principle, and reduced labour time for copying out lists. Within medieval manuscript (pre-print) culture,

there was a great deal of variation between copies of a manuscript, and often multiple works would be bound together to suit the owner's purpose. Eisenstein writes that "the owner of the medieval compendium, preparing an index for his own use, felt no obligation to employ anybody else's system but rather followed whatever method he chose" (72). So, the distinction between arranging a catalogue to keep track of subjects and titles of texts as opposed to an index to keep track of the content within those texts had not yet emerged. According to Hans Wellisch in *The Indexer*, the first printed index was compiled for Augustine's *De arte praedicandi* (*The Art of Preaching*) in 1465. The anonymous indexer included a note on the index, which already in its very first instantiation draws attention to the value of cross-referencing:

[...] Everybody who wants to find quickly something that is contained in this little book can find it, and not least also by means of various and many cross-references it will be revealed what is sometimes contained in the diverse passages of this little book at those points, which will prove to be the most fruitful for those who wish to study the book. (5)

As Wellisch shows, the very first indexes of the incunabula period were already developed in the same form that we know them today, which speaks to Bacon's thesis that the technology of print revealed what was already there in the medium of writing. By realizing that portions of text could be assigned a location, the process of linear reading could be transcended, and information could be accessed more readily. While this anonymous 'first' indexer's emphasis on 'various and many cross-references' speaks to the productive potential generated by using an index as a starting point for research. Shortly after the Augustine index, a compiler named Thomas Dorniberg included an explanation for the use of the index in his texts: "If we take the subject of any chapter

from its title, a beautiful example is immediately found” (Wellisch 5). While Dorniberg would have surely wanted to promote his own work, this statement reveals that from its very outset there is an ideology surrounding indexing that promotes ease of access over the potential difficulty of reading through a text.

In order to get a fuller sense of how indexes can be ‘productive,’ it is helpful to see how changes in their format may change patterns of thought, or methods of reading or researching. “McLuhan’s suggestion that scanning lines of print affected thought processes is at first glance somewhat mystifying,” Eisenstein admits, but she goes on to state that “further reflection suggests that the thoughts of readers are guided by the way contents of books are arranged and presented” (71). If we think of an index as a kind of conceptual overview of a given text, highlighting the most important topics covered, then ‘scanning lines’ of indices provide a framework for how a user thinks about or visualizes the overall structure of that text. It will also then determine, to some degree, how it will be read. I’d like to point out that this deterministic quality does not reside in the indexical relation as such, but rather, comes into effect after that relation is set out or inscribed — this holds for images as well as text.

As print culture evolves throughout the 16th and 17th century, it seems that the act of indexing itself contributes to the classification and typification of text. Eisenstein writes that:

The preparation of each index was in itself an exercise in textual analysis. Indexing and other procedures entailed in copyediting pointed scholarly activities in a somewhat different direction than had the preparation of orations, dialogues, and other occasional commemorative pieces which had occupied earlier humanists. Objections posed by the latter to the barbarous language and bookhands used by the schoolmen were supplemented by new objections to the barbarous arrangement of medieval compendia with their great mass of elaborate digressions and seemingly unrelated details. (77)

This process can be described as a kind of feedback loop between the act of indexing already-existing materials and the content of those materials themselves. While more discursive and dialogical writing styles were once favored, the output of written material began to tend toward structures based on subject, clear delineation by chapters, and a marked emphasis on clarity and logic of organization. This tendency can also be seen as a movement away from orality. Since the medieval ‘discursive’ mode is clearly influenced by oral traditions of communication, the imposition of organizational possibilities of print brings literacy into being as a type of communication in its own right.

Walter Ong argues that ‘the technologizing of the word’ is primarily responsible for the movement from orality to literacy. For Ong, print facilitates ‘visual retrieval’ that eventually shapes our modern notions of indexicality, separate from the type of auditory/cognitive indexing prevalent in orality. He points out that the present use of the term “index” is linked to “*index locorum* (index of places),” so the elements of an index are essentially “places (*topoi, loci*),” and that the spatial quality of printed matter, as they can be differentiated from spoken words, turns indexicality into a connection between the physical world and the conscious world. I should also qualify that ‘conscious’ here isn’t meant in the dualistic sense of a realm separate from matter, but refers to concepts embedded within the physical. Ong writes: “With typography far more operative in noetic management, the locale was identical now upon thousands of surfaces, where a “unit” of verbalization and thought could be pinned down.” (166) The “noetic store,” connected and made accessible by the index, contributes to a culture’s memory and self-consciousness.

But the extent to which Ong's own thesis would prove true wasn't clear to him writing in 1977. Recent methods of digitization have placed spatial organization at the forefront of information retrieval. He addresses this in the introduction to the updated version of *Orality and Literacy*, published in 2002: "Contrasts between electronic media and print sensitized us to the earlier contrast between writing and orality" (2), the culture of visualization brought about by digital and quantitative methods within communications and literary research such as Franco Moretti's *Distant Reading* or Michael Marrinan's *The Culture of Diagram* (and extending to many other disciplines as well) relies considerably on the 'noetic store' mentioned by the early Ong. Whether these modern types of research are good or valuable is a separate question altogether, but I do want to point out how they are informed by our notions of indexicality, which hopefully I have shown is nothing new at all. I think a similar argument can be made about the digital image. Certain media theorists want to position the digital image as a radical break from analog photography on the basis of its loss of indexicality, but this only works if we accept Krauss's definition of indexicality as a physical relation instead of paying attention to other ways it might serve as a sign. My point is not that we need to be truer to Peirce or to advocate for a more semiotic criticism, but that paying attention to media shift sensitizes us to how word and image are similarly connected to the world in a potentially limitless number of ways.

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