The aesthetic turn: ethical considerations in information retrieval and visualization system practice

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Abstract: IR systems are purposively designed to fulfill “information needs.” Yet there seems to be a dilemma between system modelers unreflective participation in traditional science’s empirical efforts of exposing \textit{a priori} reality and reliance on relativistic, perhaps contradictory, user-based relevancy judgments of true facts. Adding information visualization techniques adds a layer of interpretative possibility. The theme of the paper is that both Kantian and post-modern philosophies of aesthetics could be applied by considering the transformation of IR-supplied “data” and the end-user’s conversion of data into “information” by distinguishing between sensibility and perception, between the pleasing and the “beautiful.” Many ideas introduced below are well known in philosophy but not popularly considered in practice.

Introduction

The formal characterization of information retrieval (IR) models is a quadruple of a set of logical views of the document collection, the logical views of the “information need” or queries, a framework for modeling their relationships, and a ranking function (Baeza-Yates and Ribeiro-Neto, 1998). The establishment of the relationship between query and documents is based on the system designers’ rationale; his view of the \textit{a priori} basis for a form of knowledge, represented by the semantic elements of the query and document collections. Beyond this definition lay the larger questions of the purpose of information retrieval design, its relationship to epistemology, designers as responsible agents in society, the influence of IR systems providing “facts, or warranted assertions, about the propositions expressed in queries and documents, and the influences of translating the whole to another language - a visual one, as in information visualization (IV). It is often the case, however, that designers of systems are not aware of
their uncritical adoption of empiricism as the warrant for their work, taking mathematical models of language as sufficient in themselves. The concern is magnified when visualization techniques are applied because information is an abstract concept without real-world analogy, and because other forms of cognition and belief enter the user’s experience. Indeed, as Chen (2005) noted, there remain [at least] ten unaddressed challenges facing information visualization. The view of information visualization as the public face of IR systems provides an avenue to studying a philosophy of IR as an issue of aesthetics. The theme of this paper is not to convince but to suggest issues related to the “beauty” of information at the intersection of information and aesthetics, incorporating themes from Kant’s *Critique of Judgment* (1790/1987) and post-modernist thinkers. As the visually-pleasing is a contributor to empirical and qualitative IR studies, it seems useful to consider this nexus because studies may include the users’ prima facie sensory reaction about the design of the visualization of information as a contributing factor to a system’s evaluation and reliability/truthfulness of the data.

**Aesthetics**

The casual use of the term aesthetics refers to the arts in general as one’s sensibility to or consideration of design composition. The term is applied at the level of entire societies, such as “Asian aesthetics” or as trends, e.g., the 19th century Aesthetic Movement. It seems also to refer primarily to the use of graphic design principles in the intentional, systematic construction of visual messages of which Edward Tufte’s series on visual information design (2006), Jacques Bertin’s systematic analysis (1967) and recent popularization of IV texts, such as Börner’s (2011) and Ware’s (2008), are well known. Hidden behind both is aesthetics as a part of philosophy.

As a purely philosophical issue, aesthetics is part of the study of beauty: what in a given society is deemed beautiful and why. But crucially “beauty” is not that which evokes a pleasant response. From the traditional philosophical perspective from Aristotle through Kant and Adorno, what is beautiful is
something that bears a relationship with truth. It is not to be discussed here the long and curious relationship of these two only that “beauty” must be set out in quotes to be a proposition; truth set aside in favor of either The Enlightenment’s concept of “something else out there being revealed” (a priori knowledge) or in the post-modern age something that might contribute to multiple, contextualized “warranted assertions.”

Consider for instance the idea of “information visualization” as a graphic representation of a warranted fact or set of facts of the document/query relationship. Why is this type of interface employed and does not the decision-making of the designers establish a communication between the designer (as responsible agent) and the viewer, as well as an interpretative opportunity between the graphic representation of the data and the end-user?

Let us apply the ideas of visual objects, intended use, and agents responsible for design to complete information retrieval activities. The concept of “aesthetics”, especially in a computational or “information” environment, seems to be equated primarily with the graphic design of visual elements. These elements may be integrated into some aspect of the end-user’s understanding or comprehending data more easily, more quickly. When married to data- and text-mining, the elements are highly contextualized to the goal and particular domain knowledge, to expose unforeseen relationships supported by statistics. The significance of the data or of the relationships exposed are bound to specific group interpretations: these data, carried in this visual message, communicate a particular intended or warranted interpretation. That interpretation can be altered by accident or by design by affecting visual elements (color, texture, position, changes over time) or by affecting the viewer’s “state.”

A viewer will read into the visual message or otherwise project interpretations or scenarios of “meaning” in the above constraints bound to interpretations of utility. When there’s a cognitive harmony of the viewer’s prima facie sense, there is probably no motivation to explore further. However, below the surface there are movements to understanding that necessarily affect more than the first-glimpse
interpretations. The philosophy of aesthetics when applied to the concept of information brings out interesting phenomena that generally are overlooked - the communicative, non-empirical, and \textit{a priori} aspects that underpin the transformation of data provided by an information system into information that people use as a basis for action and are themselves affected by. Both aesthetics and information then share aspects of immediacy and of interpretation. Likewise they share a public surface that prompts a reaction - a visceral sense datum. For instance, reactions to portraits by Francis Bacon may be disgust, or amusement to Dalí; similarly there are almost transcendent influences in play with visually pleasing information visualizations, such as Caida’s Walrus project (n.d.).

To gain more we look at and react to a private conversation to establish an understanding of the object and then rationales for it or how it might be useful. But to conclude all as instrumental knowledge of the object prevents a deeper understanding. The concepts of information and aesthetics share links to subtle divisions, which steps tie the surface to deeper, more abstract, phenomena. In this paper, the surface and abstract levels of both are explored from two vantage points - the tie to universals and \textit{a priori} reality and to a Post-Modern (PoMo) \textit{a posteriori} view of science - to show how they relate to the viewer and to larger streams of philosophical thought.

\textbf{Information and Aesthetics}

The idea of defining “information” is itself a contentious activity. There are various definitions in play. One is “information” as the result of cognition, or as in the British legal concept of having a warrant for action (“the police have received an information...”). It is also defined in terms of utility or as something measurable for control: “Wissen muß dabei als eine außergewöhnlich effiziente Informationsskompresison angesehen werden. Es ist begründete Information zu verstehen, aus der wir Ereignisse vorhersagen können” (“Knowledge must be regarded thereby as an unusually efficient information compression. Justified information is to be understood, from which we can predict events”) (Umstätter,
1998, p. 221), or as the difference between two states as in information theory. Most commonly, what is offered by an “information system” is assumed by definition to address a user’s intellectual need. For our purposes, “information” is defined as the result of a process of human cognition by interpreting an object’s potential purpose and form, situating a relationship between the form and the physical world, and using this product as a warrant for the person’s action (Benoît, 1998).

The transformation of data into information then is to help someone “make the case that”, meaning the person could provide and defend the warrant for his propositions as part of his own knowledge, rather than parrot the assigning responsibility to another agent, such as “the IR system says.” Ulhřová (1994) studied how people when using equipment and working with others will become hesitant to take responsibility for an interpretation, especially if that interpretation leads to an action that costs; even to the point of placing responsibility for decisions on inanimate objects, such as computer equipment. Ultimately end users wanting to learn engage in “information seeking”, which includes relying on IR systems - in effect relying on the design decisions of the IR theorists and interface creators. To convert retrieval sets to “information” is to create an interpretable, communicative, and truthful reflection of reality. One reason perhaps that a philosophy of information retrieval is needed is because much of the literature rejects or ignores the idea of truthful facets in favor of the relativism of individuals’ relevancy judgments - end users who with minimal data (such as a pointer to a surrogate record or graphic representation of semantic relationships such as word clouds).

The stress between the idea of a user of a system determining “relevance” even if this creates true belief in a false fact, and data that are anticipated by design to fit universally a given need that is necessarily “true” is a curious thing. Even though IR researchers happily acknowledge the benefits and consequences of linguistically-sensitive token-manipulation of matching query representation to document collection representations, the underlying idea that what is returned is informative (immediately interpretable and applicable) flies in the face of the myriad, and importantly, impossible to measure in a
strict empiricist sense, the factors that lead someone from prima facie sense datum to efficient and effective action in a context separated in time and space from the design and use of any “information” providing system. Usability studies and many IR evaluation projects are pure empiricist activities that would measure the change in state even though the cause for change is a black box: the differences are measured and cause inferred. This is the basis of all scientific work and it is useful.

Nevertheless, different perspectives or view of the same phenomena, or “the case that something may be”, are not to be dismissed. They provide ways of seeing, if not necessarily equating to familiar forms of verification and evidence. To researchers in “information visualization”, there’s a curious lack of understanding about visualization outside its immediate use for quick understanding by the viewer of a state of affairs, given a set of data. For instance, Heer’s work in visualization does not focus on the visualization nor the data, but rather the comments generated by disparate users of the visualization. Heer (2009) and others use content analytic techniques to study what visual representations cause others to think and communicate.

There is also a cognitive act: this is the transformation from static, potential datum into an active, expressed “information.” Plato, in *Phaedrus* (1995), and in countless empirical and social behavior studies, recognize this transformation as a signal of intent. Dreyfus (1972) pegs this as the primary reason why computers and machines in general can never be considered on a par with humans; it is the heart of the Turing Test. Yet since the rise in the late 1970s of post-modernist philosophy, intention is suspect. Casting intention means either the speaker is exerting some power play as part of a “grand meta-narrative” or it is the impetus to find dialectally the “real” message by exposing power or strategic uses of technology.

Whatever side one chooses in the ideology, the result is the same: intention infers self-reflection; either in the creation of a message or in its receipt and interpretation. To cast meaning and to be willing to provide a warrant behind one’s interpretation requires a kind of self-reflection; self-awareness, a
conscious choice of one thing over another. In a word: judgment. In this way, “information” as a judicious, warranted act is related to aesthetics. Opening the idea suggests IR theories are potentially responsible by their intentional, purposive application by designers of interactive interfaces that become interpretive inputs to end-users. This suggests the IR model entails an *a priori* reality, between a “fact”, its proposition, and its interpretation by others, as a communicative act, although separated in time and space.

**Intersection of Aesthetics and Information.**

There are naturally multiple dimensions or perspectives when considering any thing with an aesthetic eye. Something about the properties of design correspond to someone’s understanding of design. As any traditional art object (such as a representation of nature) the selection and display of the object by the responsible agent before the public and for public comment engages in a kind of dialogue, echoing something in time and in space, with that public.

There is entailed in any visual communicative act the notions of design, a reflection of truth (or knowledge or “warranted belief”) and an intention to convey a shareable message.

The design, or intentional selection of visual objects to evoke a response and/or convey an intended message, reflects multiple layers of a message, whether they be webpages, brochures, even found art. Parts of the message’s construction and analyses can be systematized. For instance graphic designers rely on their training in color theory in constructing visual objects. Researchers select a theoretical foundation that frames and guides the investigation, e.g., biological basis where humans universally react to certain colors and shapes or may be culturally-bound, such as Barthes’ idea of indexical: the color red to inflame or to warm, blue to calm, green for action. Or entirely empirical as cause-and-effect of the users experience. They express, too, similarities among people sharing a visual perspective. Schools of art coalesce around a technique (e.g., pointillism) or use of color (California
Expressionism) or interaction design (such as Apple’s Interface Guidelines) and the benefits and consequences of responsible agency.

**Aesthetics**

The visual is bound to the search for truth or knowledge and especially to the ethics of social life. Prussian philosopher and librarian Immanuel Kant (1724-1804) identified as part of his analysis of human progress the processes of discernment in his *Critique of Judgment*, 1790. First generation Critical Theorists of the 20th century continued the Enlightenment’s ideas of progress have also applied their theories to the larger concept of Aesthetics maintaining the ethical response of aesthetics but abandoning its redemptory dimension. For example, Theodor Adorno questioned the ethical possibility of the entire visual project after the Holocaust; James E. Young turns to the post-modern view of the fruitlessness of aesthetics (Cooke, 2002). The point here is that “aesthetic” is a useful and viable concept at multiple levels, reflecting on design choices and also upon states of affairs in society - from hopeless anomie to the hopefully redemptive. We can press the role of aesthetics and information to expose sets of ideas that define or explain the states of affairs in society from the perspective of those whose work product is intentionally designed to be help others perform in their lifeworld as consumers of IR systems’ output.

**As communication**

“Information” like communication requires someone to construct the message purposively and someone to interpret purposively. It is bi- or multi-dimensional. Some literatures on the topic stretch the speaker/hearer pair to include constructed messages that are created and received separated in time and in space: seeming unidirectional communication, such as radio, television, websites, RSS feeds, newspapers, are produced at one point in time and consumed later, the speaker/hearer (S/H) pair being removed from each other.
The segregation in time and space perhaps leads to the blackbox and with it the reliance upon empirical testing to suggest with a high degree of probability what reaction is caused by visual stimuli.

For example, the art and architecture of the Arts and Crafts Movement, which zenith was 1880-1910, was intended to improve the lives of ordinary working-class people negatively affected by increased technology and mechanization by infusing ethically uplifting décor into their domestic lives. Part of the movement was consciously to give lower economic class workers the sense of social integration by emulating middle-class consumerism. At times this is counter-intuitive. Intellectual Oscar Wilde’s reputation-spreading lectures, *The House Beautiful* and *The Decorative Arts*, and William Morris’ flavor of socialism are distinctly upper class.

There are also ethical and philosophical components. The many “-isms” that grew after the 1890s - Modernism, Futurism, Dadaism, etc. - all had political and ethical proclamations of how their aesthetic point of view could rescue society. The Bauhaus especially married work and the visual.

The visual arts and architecture expressed the intention of the owner, designer or inhabitant to convey more than the obvious or immediate. The house became “the House”; light and shadow moved from design techniques to functions of life. Since the entire package was intended to be interpreted as a whole, and was intended to be read by others choosing to communicate aesthetically, it expands the benefits and consequences of aesthetically-coated message throughout society. There are, then, pervasive, non-verbal multidimensional and multi-interpretive acts.

Regardless of the choice of perspective if we concede that the idea of communication occurs in a time/space fractured way, then any intentionally constructed visual message - from painting and the traditional concept of beauty, to web site design, architecture, and even information systems interfaces and satisfaction studies - are acts with an acknowledged responsible agent and subject to the tangential rewards/consequences.
Value

Should people who build “information retrieval systems” care about aesthetics or the implications of “information” vs. “data”? There is no argument that could convince unless one believes that more knowledge, different mental challenges, lead to different solutions and that potential solutions are valuable in their own right. The concept of “beauty” is not measurable as objective sense datum. User satisfaction studies, for example, that include measures of satisfaction with the visual design recognize the role that aesthetics (in the casual sense) plays but there’s no enumeration of properties of the sensed that equate to the kind of enumeration possible with physical objects. Even this is controversial.

With the rise of ordinary language philosophy in the late 1970s there was also a shift from “truthful knowledge” to recognizing that sense data are a reflection of one aspect of a phenomenon, not actually knowledge about an event. Ordinary language philosophers shifted analysis to the expressions of knowledge, binding the message closer to the speaker’s or designer’s values.

In the post-modern world, “value” seems to be pegged solely to commercial benefit. If pursuing one design approach, say Thomas Kincaid’s (1958 - ) style of representational/fantasy images of domestic life, then his work is more valued because he sells more reproductions of his paintings than do Carl Larsson’s (1853-1919) popular realistic watercolors of ideal, but factual, Swedish domesticity. IR and IV design choices reflect the expectations of the designers. What should be the basis for evaluation? Increased sales or visual response or intentional appeal to “beauty” and truthfulness? Many information architecture and information retrieval system usability studies measure, and so claim as the most important value, time to completed task. This suggests, to some, the idea of knowledge, communications, and aesthetics are related to, but clearly subject to, commercial or other measures.

Whether information system builders ought to consider philosophical aesthetics and the implications of information may depend on one’s or one’s group value system and intentions, such as a profession’s. The lack of a leading response to this question is suggested in the usability and information
system evaluation literature. Because user satisfaction is a widely accepted measure, it implies among other things that true belief in a false fact is possible but not important - “the user decides relevance.”

Perhaps, but this blurs two questions: is what is presented enticing (sensible) and sufficiently comprehensible such that the viewer performs better in his lifeworld? The value being served is prima facie satisfaction level but this type of satisfaction evaluative measures potential use, an image of a possible future reality, not informativeness.

**Discussion**

Aesthetics relates to the concept of “beauty” but the expression of beauty is not that which one finds “beautiful.” Rather it is a knowledge claim on the *a priori*. Regaining this requires dividing the sense of an object into one’s *sensibility* of it and one’s *understanding* of it. This means the viewer’s judgment of the object is based on experience that results in his claim or assertion about the object. Stated differently, the viewer more generally expresses an awareness that something “is the case.”

Consider Worhol’s 1968 serigraph of a Cambpell’s soup can. To recognize that a can of soup consists of printed paper label, text and images, and that the can itself has a purpose (to hold soup) is one foundation for interpretation. To recognize that by changing the dimensions of the representation to absurd scale and situating the use of the object in equally absurd ways (taking domestic objects and presenting them in high-culture environments), the viewer controls the potential interpretation and use of the object. The original intention of the designer as the agent may not be rescuable - whatever Worhol intended is unknown. But the sense of his goal and the viewer’s sense may be close. The point is there may be similar interpretations of significance. But they are coincidental. The concept is not the soup can or lunch: it is an abstraction that is interpreted and which interpretation is shaped by the individual and forces around him. This is the same as the concept of relevancy. The notion, then, of visual object creation without shared or known intention leaves the viewer to cast significance - the same as “relevancy
judgements” - and like relevancy judgments creates an image of reality without actually being cognitively recognized and bound to reality; the basis for purely empirical investigations are cut short.

**Kant**

In addition, there remains to explore the bridge that leads the viewer to see (sense) the object and understand (to be aware of the case) such that he can assert something because of his interpretation of the object. This is where the designers’ intentions - through their design choices - are participants, separated in time and space - but still responsible agents because they affect the end-users’ ability to establish warrants for their propositions, e.g. “Worhol’s soup can poster is important in the history of graphic art because....” Both aesthetic judgment and cognitive judgment are needed. The question is, are these interests of the designers accidentally (or not self-reflectively) or intentionally biasing the interpretations. In Kant’s phrase (1790/1987), beauty as *ohne alles Interesse* forms an unfiltered, direct communication between the visualization and the viewers’ minds. One interprets something not in the context of some other need or interpretive framework bound to a single space and time but as part of “free [or uninfluenced] contemplation” is also the motivation for the many early 20th century modernists’ movements - to form an unfiltered, direct communication between the visualization and the viewers’ mind.

Some kind of cognition is required to arrive at “information.” In aesthetic terms, an object can be beautiful, or be sensed to the viewer as beautiful, yet not attached to any particular concept. “Found art” is an example of such an object and in a way so is information visualization, which outside of any viewer has no particular concept, but rather a combination of texture, form, and space that pleases. To be aesthetically informative, perhaps, one needs a basis that justifies why the viewer thinks others would find it beautiful, too. That the idea can link people means there is both a claim to subjective interpretation as well as a claim to universality.
It was suggested above that objects can be viewed without serving a particular interest and now there is the idea of communication of the value to others. Discussing an object without the claim of universality (or without the intent to express that claim) means something is not “beautiful” but perhaps just “pleasing” to the speaker. The concern here is that whatever is perceived and cast as “beautiful” or expressed in some aesthetic judgment does not lend itself to articulated properties that can be measured, as is the case with other objects. So the idea of a subjective universality is difficult.

But the content of the judgment of taste may be attached to the perceived form of the object. Perception of form is different from the sensations of form. Aspects of color and of line or of the usual graphic design elements lend themselves to the experience, to be sure. But they are also different from the sense of relations - the spatial and temporal - that tie the perception of form to the user’s self-reflection and projection in society.

There is, then, “purposive form” (Kant, 1790/1987, §15): that whose concept can be regarded as the ground of possibility of the object itself. The form is the cause of the perceived object’s existence. A knife, for example, has a form that makes sense because we understand what it is supposed to be; it has a purpose.

Experiencing beauty is different from apprehending its form as reflecting a definitive purpose. Can one see a purposiveness in its form even if one cannot conceive a definite purpose?

There must be some necessary condition that is satisfied (Kant, 1790/1987, §12). How, then, can one show the legitimacy of a judgment? What judgment imputes the same satisfaction necessary to all? The question that arises from user satisfaction studies, cast in aesthetic terms, is to ask is it legitimate to make a judgment based merely on the pleasure experiences in perceptually apprehending something, while implying that everyone ought to agree?

Drawing heavily from Kant (1790/1987, §36), are synthetical a priori judgments possible? The whole could be expressed as cognition in general or perhaps even a harmony of multiple cognitive
facilities - imagination [casting purposive object], understanding [intentionally and self-reflectively accepting the case], and doing so without undue or unacknowledged interest, that is “free play”? If so, the creation of understanding ties the individual who conceives to the object and to the larger society with whom he communicates. There is the need, then, to conform to a reciprocity (Kant, 1790/1987, §35, §38).

It is “a doubly reflective” process, as Kant suggested: reflection on the spatial and temporal form of the object by exercising our powers of judgment (imagination and understanding) which awareness comes by self-reflection of our mental states. One open concern is that our states do not lend themselves to measured “recognized thought” but internal feeling of purposive state of mind (Kant, 1790/1897, §40). Progressing from sense data through self-reflection to arrive at a purposive state of mind is the transformation of potential to “information” - warranted, communicable, basis for belief and action.

6.1 Post-Modernism

Turning to post-modernist literary critic Jean Baudrillard (1968), the intersection of aesthetics and “information” brings a reconsideration what we mean reality to be and where we consider it to be in relation to its supposed reproduction. It is here, perhaps, that the post-modernist concern of reality vs. imitation is expressed. Without a self-aware, self-reflective, intentionally-driven assignment of purpose, that is purposive design for the representation of “information”, or in his terms “lazy thinking”, one wonders whether there is a reality that is subservient to representations of reality and what determines our production (“simulation”) of reality.

In the area of “information visualization”, then, considering the intersection of aesthetics and information we have questions about the production of message, the intentional body of the message, the visual (sensory) influences as well as the viewer’s cognitive and sensory input. These along with the projected notions of form bring up the aesthetic of information as the “aesthetic of information per se”, 
equivalent to *l’art pour l’art* idea, and the idea of measuring, or otherwise requiring empirical evidence, for understanding how individuals and societies ascribe to, and profit from, the “beautiful” in information.

Writ large, how might this intersection reveal states of affairs in society? What set of ideas are spawned, knowingly adopted, and expressed to find the universal in communication with others? What story does it tell about artistic styles in our attempt to explain information in the language of graphics?

This reflects the Enlightenment’s understanding of knowledge and universals, if not stretching all the way to truth. The counter to this argument is post-modern skepticism and rejecting of any presumed privileging of message creation and interpretation.

The post-modern (PoMo) attitude varies too greatly by country, field of work (art, architecture, literature, media studies, etc.) and era to generalize other than very broadly. An early respondent to this complex situation was modernist F. R. Leavis. In his *For Continuity* (1933) he questioned the triad of style, message, and universality of response, as part of his critique of modernism and post-modernism’s high-vs-low culture distinction. Leavis argued for an aesthetic élite (of experts) who, even though they represent an educated minority, serve as cultural guardians against a trivializing, uncritical, useless, and facile production. This supports the banner of “authentic” standards.

However, concomitant with the rise of information technology come L. Fiedler and F. Jameson, who theorized about the place interpretation plays and the conversion of reality to images. The former in *Cross that border ... close that gap* (1971) was one of the early cock crows against intellectualist or privileged interpretations to foster flexible, pluralist, popularist efforts. The latter by saw the end of what could be said with sign systems: we are “no longer able to invent new styles and worlds ... the most unique ones have been thought of already. ... The genius is in the blend, not in breathtaking innovation.” Moreover, “In the consumer society of late capitalism, according to Jameson, reality is turned into ‘images,’ and history is reduced to a patchwork of scenes” (Lützeler, 2001, 1). Reflecting on information visualization efforts and the literature the thought arises that visualizations built upon information
retrieval sets may be graphically pleasing and informative, as but the warrant for the approach and how
the users’ interaction is treated empirically are not questioned.

Information Visualization and easy creation (and copying or Jameson’s “the blend”) of web site
materials aimed at large audiences encourage a rethinking of the relationship between information
retrieval’s role and participation in message construction, visual message construction, and the influences
the graphic extends. There is also the larger, abstract question raised by ethics and philosophers of the
differences between info visualization and aesthetics and what happens with the value of information is
placed as a consumer good, something late post-modernism describes.

To the PoMo there is “the loss of the real.” Yet what is the purpose of information systems and
its elements if not to link an individual back to a shared, shareable encounter with the real?

Early PoMo wanted to combine and reuse objects in new ways to cause a rupture in the
experience of the viewer to expose the “new” to human minds and to expose truths free from deforming
social agents. So there are two streams: to expose a priori real or universals and to expose individualized,
relativistic concepts of truth and reality. Here it seems that there is no argument or empirical study that
could justify one’s choice that there be universals waiting to be exposed or that perception of reality is
shaped first by cultural influence. The choice exposes what some late logical positivists discovered
(Coffa, 2002) and why they lost their way, that at the root of our work is a continuation of the project of
the Enlightenment, a belief that universals exist and we expose them. Or one favors the relativism of
PoMo, that as long as socially constructed facts do not collide then that image of reality is successful and
by extension truthhood, or that the question of a “truthful” discovery of reality is not a question worth
asking. It is in the breach where critique posits something is happening. Baudrillard’s System of Objects
(1968) expresses the same as a dichotomy based on modern society’s obsession with images between
duplicates of “pre-given reality”, which supports Kant’s notion. Or is there no firm, pure reality left by
which one measures truthfulness or falsity of a representation? Electronic reproduction has gone so far
that the notion of originality is (or ought to be) irrelevant. Digital objects, writes Heim, do not “re-
present” a real thing (1975). Thus to Baudrillard the question of reference becomes moot: it is the
principle of simulation and not of reality that regulates social life. This suggests, oddly, that both streams
of thought rely on the transcendental.

A Dilemma for Information Services

The crux is subtle and challenging to explain. We can distinguish some necessary, *a priori*,
conditions of knowledge. An aesthetic turn, then, could aid inquiry into the necessary presuppositions of
knowledge, and the result of such an inquiry is a theory of the scope and objective validity of human
knowledge.

Because of how scientific investigations are performed, usually without being recognized as an
empirical practice, that is, reason-based analysis of sense data, there is then only illusion of reason. There
is both doubt about *what* we can know and doubt about *how* we can know.

On this view, IR as a science cannot know anything transcendental and rejects the transcendent
anyway as a legitimate form of evidence and reality. Science can only describe phenomena but cannot
genuinely explain them.

With the rise of post-modern philosophy, certain adherents of the linguistic turn argue that certain
conditions have to be met in order that the expressions we use (to represent or describe reality) in our
language make sense. These conditions are not satisfied by assertions that something transcendental exists.
Therefore such assertions about reality are not worth considering because they do not make sense and
consequently cannot be true. The difference is whether one believes truthfulness can be attained - either
by an appeal to external universality or correspondence and coherence with other accepted facts. To the
logical positivist such as Carnap, Schlick, Ayer, among others, (Coffa, 2002) and forms of empiricism
only expressions whose meanings can be reduced to sensory experience (such as visualizations) make sense.

Consequently, if two people express the same event but conclude two different significations, they are both “truthful” even if argument could be offered that exposes the contradiction. This is the point; there is no foundation from which to consider truth or falsity - just coherence and correspondence and to some there is no interest in the question at all.

The legacy of PoMo’s influence on the idea of reality surfaces in research and interest in the ideas of authenticity and trust (e.g., Internet privacy). Actively choosing to, or non-self-reflexively following, PoMo leads to skeptical or negative desire even to consider the broader interpretations of visualizations and potential derived from aesthetics, other than to emphasize parody and pastiche. A lack of consideration of the impact of visualization on messages is a hollow, uninvested duplication of images, especially in the realm of system design intended to “inform.”

The developing interest in images and information but seemingly without understanding why, other than to facilitate quick, prima facie interpretation of large data sets, chokes off the potential to learn more about the users’ experience, the information systems designers’ roles, unknown applications of visualization, and the legitimacy of visual-intensive technologies. Many of the concerns get waived away by some, dismissively and derisively, as “it’s all relevancy” or “it’s the user who determines relevancy.” But claiming the user of a system alone, and often without sufficient content, context, and reflection, moves the whole IR/IV world to hyper-relativism and generally to a rejection of the issues of verification leaving the user unable to justify a claim of relevancy other than because “the search engine says so.”

An aesthetic of visualization helps to reveal states of affairs both at the individual level and at the level of his/her society by providing a set of ideas to explain or to define those states. There becomes a view as a perspective on contemporary situations and what it says about technical society, cultures, and lifestyles. Do we knowingly pursue IR as concrete subjects of choices between T/F and revealing
existing universals or to choose a PoMo aesthetic of technological sameness in mass cultures or is the issue not worth considering?

The traditional forms of representation of nature (as in scientific visualization) appear alongside the “flat” representations of man-made images. But whether they’re knowingly artificial or appeal to some visceral satisfaction is an open question. It turns on the role of reason, rationality as well as the self-reflection of information retrieval/information visualization system designers. Does the addition of graphic communication contribute to exposing universals and does Information Retrieval as a discipline recognize the value of universals or does it prefer a social constructionist view? Either way, there’s a gap between the viewpoints that a consideration of the philosophy of aesthetics applied to information retrieval studies exposes and which it might fill.

References


