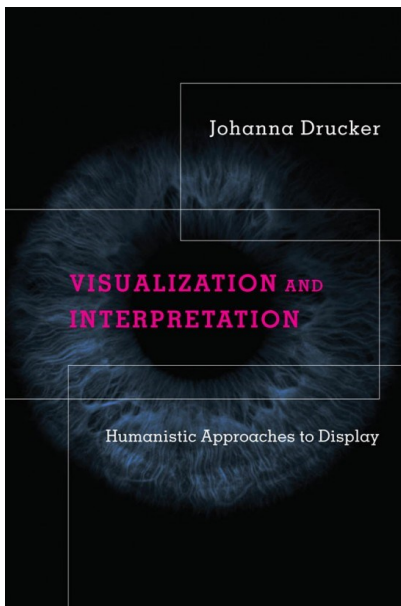


Modeling interpretation, or a humanistic alternative to data display

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In her new book, Johanna Drucker moves the discussion about Digital Humanities forward by focusing on computational legacy issues involved in the practice of interpretative research. The author not only compiles but also interweaves and updates the theses of seven seminal articles and other books¹ previously released over her past twenty years of inquiry, providing clear tenets for a paradigm shift in the current conventions

¹ As the author herself lists in the “Acknowledgments” (vii), those articles are: “Humanities Approaches to Interface Theory” (2011); “Humanistic Theory and Digital Scholarship” (2012); “Non-representational Approaches to Modelling Interpretation in a Graphic Environment” (2018); “Information Visualization and/as Enunciation” (2017); “Performative Materiality and Theoretical Approaches to Interface” (2013); “Design Agency” (2017); “Digital Ontologies: The Ideality of Form in/and Code Storage—or—

of displaying knowledge graphically as well as for the adoption of more suitable visualization methods for the Humanities. At the very beginning of the introductory chapter, Drucker contrasts “information visualization” and “modeling interpretation” as the core differentiation between the declarative attitude towards data and the propositional perspective in which graphical expressions generated through data must be conceived as interpretative models for knowledge production. Through this distinction, she draws attention to the problem with the first approach: the obliteration of the remediated and subjective nature of visualization, as if it were not a confluence of the “processes of transformation — from phenomenon to data and then to display” (2). Throughout the five chapters of the book, Drucker sets out the effects of graphical presentation beyond data display, highlighting the function of interpretative practices on the development of knowledge through a constructivist perspective in which “[t]ext and reader exist in a relation of reciprocity” (3).

In the first chapter, the author calls back the recognition of the epistemological status of visual images as a premise to the discussions about the inadequacy of some digital-born methods for humanistic work. The misconception that graphical expressions can only be used as a modality to represent interpretation rather than provoking it marks the distinction between “representational” and “nonrepresentational” approaches to visual forms of knowledge. Representational forms “are surrogates, and stand for a preexisting, a priori, already formulated knowledge in the form of a graphic statement, notation, or visual phenomenon of some kind,” while the nonrepresentational approach “creates information or knowledge in a primary mode [...] it does not reproduce something preexisting.” (11-2) The recognition of nonrepresentational visual expressions apart from representational ones challenges our familiar perception of the visual field, questioning the insistence about the dependence of images on preexisting referents and the stigma of images as a secondary mode of knowledge production.

It is worth understanding this specific visual epistemological issue because it bears on the discussion of the three first chapters, in which Drucker addresses, respectively, the principles of *Graphesis* as applied to digital environments, the probabilistic dimension of knowledge, and the nonrepresentational approaches in order to perform graphical arguments instead of showing data portrayals. Additionally, the author reinforces the inconsistencies of an empirical view on visual knowledge due to the unstable nature of images’ agency, reframing it in a user-dependent and situated approach to knowledge

Can Graphesis Challenge Mathesis?” (2001). Some of the concepts and discussions in books such as *SpecLab* (2009), *What is? Nine Epistemological Essays* (2014), and *Graphesis: Visual Forms of Knowledge Production* (2014) are also revisited and expanded in this work.

production. Her point about using images as models for understanding non-visible phenomena also contributes to demystifying the subsumed reliability of notational (mathematical) systems as truly objective. The material presence of inscriptional traces embedded in any visual production — even in its nanometric dimensions, as in the relation between the code and the hardware —, as Drucker argues, makes it possible to anticipate why digital environments do not consist of a particular situation of pure discreteness, neither are the images that are computationally conceived.

Considering the contribution of graphical expressions to knowledge, Drucker explores, in the second chapter, how their specific nondeterministic behavior within user-dependent readings could reveal probabilistic interpretation mechanisms. As she notes, the repositioning of meaning production from inherent to text to the act of reading sustains an important movement towards the decolonization of knowledge, “breaking the singularity of point of view often enacted by hegemonic discourse” (44). Even so, the resistance in recognizing the singularity of each subject’s interpretation in each act of reading undermines a probabilistic understanding of the meaning production. Drucker stresses that subjectivity “is a structuring principle, not just an inflection” (50), pointing out that the tendency to neglect the mechanistic bias brought to Digital Humanities research with the use of computational tools is not a technical limitation, but the blind assimilation of protocols which are incompatible with the humanistic field.

For instance, the supposed neutrality of data conceals the fact that data is only one of the possible expressions of a phenomenon observed according to a chosen hermeneutical model for research, “and that the visualization is of the data model, not the phenomenon from which it was extracted” (54). Focusing on interpretation as critical to dealing with the digital, Humanities would benefit from an expansion of the notion of materiality into a performative perspective, shifting the basic question from “what an artifact *is*” to “what it *does*” (61) and engaging in use “humanistically informed theory to *design* the technology” (64), instead of concentrating only in its effects. Drucker cites, throughout her exposition, some SpecLab projects she carried out with Jerome McGann, using them as examples of the (feasible) challenge of conceiving technology based on theoretical concepts derived from humanistic concerns.

In the third chapter, Drucker makes explicit that the nonrepresentational approach “emphasizes the constructed character of knowledge production as interpretation” (69). She recalls the rhetorical impact of the graphical form on the way information is visualized, dispelling the supposition of an ideal representation in which data is merely “revealed” and the semantic value of the structure is overlooked. The author goes further and

asserts that graphical forms can also work way beyond the duty of expressing given data and structures, indeed generating knowledge by themselves, as it occurs in visual modeling techniques that create and/or test scientific production through experimenting with visual schemes in conceiving ideas.

Drucker discusses whether models can be representational or not. When a schematic expression of a concept (model) displays “different degrees of isomorphic (structural) connection between the visual image and its referent” (72), it is representational and does not produce deeper perceptions because of its self-evident attitude about what is already known, tending just to reinforce established features. By contrast, a nonrepresentational expression is not only non-mimetic but genuinely performative, since “it gathers signification, or meaning value, through the resonant features of its place and position, the conditions within which it registers [...], and by the attributes it carries” (74). In this sense, nonrepresentational visual approaches are deliberately designed to motivate interpretation through a modeling environment, which is decisive to critical thought on data display, mitigating the entity-driven and declarative attitude on representation (taken as immediate surrogates) in mechanistic visualizations. In describing the conception of the 3DH platform at the University of Hamburg (2016), the author offers her own experience in building alternatives to current methods of visualization. Through the detailed description of three graphical components (graphical features, activators and inflectors, and dimensions of interpretations), Drucker points to the specific concerns in deploying nonrepresentational approaches to concept modeling environments.

The exercise of thinking about how systematically inscribe interface features that can perform a humanistic approach to data display is the core of the fourth chapter: “[a]n interface structures what we may say/see/hear and how we may navigate in ways that subtly and not so subtly construct our sense of possibility” (92). However, the current consumerist model of interaction does not include the awareness of its structural workings of interface for its users. Instead, the experience of mediation is optimized to be seamless, concealing subjective aspects of its construction, such as “features of power, ideology, and subject positionality at the basic level of the framing operation of interface design” (92). The quest for transparency in interface design is problematic, as Drucker stresses, since graphical features organize the experience of accessing information – and not merely convey information. It is worth emphasizing that these features indeed set conditions and cues for the interaction but are inefficient in *controlling* the activity of reading itself because the relation between these suggestions and the viewer follows probabilistic features – not mechanistic ones, calling upon cognitive processes of codependence in which provocations may or not be considered.

This perspective is at odds with the term “user” according to Drucker, since an “interface is a space in which a subject, not a user, is invoked. Interface is an enunciative, or structuring, system” (103). As the author puts it, drawing on Émile Benveniste’s account of subjectivity in language, the semantic flexibility of pronouns demonstrates how the deictic system they sustain is dependent on the context of use. While the pronoun “I” identifies the source of discourse — the “speaking subject” —, it undeniably outlines the “you” through the same discourse — the “spoken subject”; and if there is a lack of reciprocity in an interface structure concerning both parts, it configures an absence of dialogue, expressing, for instance, “power relations as positionality” (105). Drucker brings to the fore the urgency of critically reading information as enunciation, aware of the rhetorical aspects embedded in it, and she encourages the deliberate use of graphical systems to make explicit the enunciative features of what is displayed, resulting in interfaces committed to the humanistic demands shared throughout the book.

The last chapter and the appendix offer a detailed description of, respectively, some project prototypes and design concepts whose development considered the tenets addressed in the previous chapters for interpretation modeling. Drucker highlights six key features and four key principles in common regarding the selected projects, encouraging future initiatives, and setting up a basic orientation for a first move in the field. For each of the six projects described in the fifth chapter, the author explains how the model was conceived, which of its aspects are successful and for what purpose, and which of their characteristics require upgrades or updates. There are some insights regarding the potential applicability of these alternative models in current tasks in Humanistic inquiry, such as “making timelines, chronologies, spatial representations, maps, networks, or arrangements of documents or other materials as part of an argument” (136). Although Drucker considers that these models can be used in other scientific domains, she focuses on the use of nonrepresentational approaches not to correct, but rather to expose the declarative workings in visualizations, “creating a graphical system that demonstrates the hermeneutics of intellectual work as constitutive of its objects of inquiry” (137).

Finally, the appendix is divided into two groups: the first one gathers the graphical instances of principles relevant across the various projects, and the other group gathers more complex images that show how the principles could be implemented in actual graphical displays. Undoubtedly, this book offers its readers an accurate, critical view concerning the (increasingly ubiquitous) visualization practices, which are “reifications of misinformation” (137) functioning as declarative stands of alleged neutrality.

More than that, it presents sound alternatives, well-founded in theoretical and practical endeavors of the author, which introduce, engage, and indeed assist humanistic researchers in using nonrepresentational models of visualization for their interpretational projects and investigations.