

BYRON FONG

Book Review: *Cultural Analytics*

Cultural Analytics by Lev Manovich. The MIT Press, 2020. 336 pp./\$35.00 (hb).



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Throughout his career, Lev Manovich has never been afraid to make claims. Since his foundational 2001 book on digital aesthetics, *The Language of New Media*, Manovich has continued to develop terms and methods for conceptualizing our rapidly changing digital media landscape. His latest book, *Cultural Analytics*, is no exception. From the perspective of having worked with data science tools for well over a decade, Manovich argues “we need to reinvent what it means to study culture” (18). Building on the research of his Cultural Analytics Lab—originally founded at California Institute for Telecommunications and Information Technology but now also residing at The Graduate Center, City University of New York—Manovich’s book outlines a new set of terms, tools, theories, and methodologies for studying cultural artifacts, experiences, and dynamics that he collectively calls “cultural analytics.”¹ *Cultural Analytics* presents readers with a rare treat that can only come from a seasoned academic who retains a visionary impulse: a new methods book with legitimately new methods.

Cultural Analytics is certainly ambitious in its aims—attempting to put at least three separate fields of study in conversation: media studies, digital culture studies, and data science. The book’s chapters weave together the history of visual culture, the history of studying culture, and a case for using data science to study culture today. The messiness of contemporary online media necessitates an approach that covers many different fields, topics, and research questions, but it does not sacrifice clarity or coherency in doing so. While each chapter taken separately works well as a valuable pedagogical lesson, as a whole the book’s organizing principle is a challenging epistemological concern. This concern is best summarized by the title of Manovich’s introduction to the book: “How to See One Billion Images.” The title is phrased as an imperative, but could it not easily be turned into a question? Indeed, *Cultural Analytics* develops an important theoretical question *through* its many instructive examples.

The two-fold meaning of the Introduction’s title can be read as a metonym for the structure of the book’s argument. *Cultural Analytics* functions as a data science methods book for media studies researchers (a “how-to”), while simultaneously presenting a question—a theoretical problem—(“how to . . . ?”) about how we know what we know about culture. Manovich impressively and seamlessly weaves these two together. For example, in the introduction, he describes practical problems for dealing with large quantities of images, and he outlines the book’s sections. But his theoretical concerns are not secondary, and he states outright that “*Cultural Analytics* is a book of *media theory*” (17, emphasis original). Although the two are inextricable and mutually reinforcing, I will address these two concurrent threads separately.

To instruct its reader on how to see one billion images, *Cultural Analytics* simultaneously educates on the history of methods, how those methods addressed particular historical concerns, and to what degree certain methods do or do not work in our present situation. *Cultural Analytics* is divided into three parts: I Studying Culture at Scale; II Representing Culture as Data; and III Exploring Cultural Data. Put briefly, part I puts humanities and data science in conversation with each other, pointing to changes in

1. See Cultural Analytics Lab, <http://lab.culturalanalytics.info>.

cultural production in a post-social media age to justify a shift in the methods used to study mass culture. The second section covers many classical social science methods, as well as ongoing data science methods, but modified for humanities questions. The first two sections lay the groundwork for the arguments of the third, which more forcefully presents new methods and theoretical questions to guide a researcher wanting to engage in “cultural analytics.” Accompanying new methods come new terms including “software thinking,” “image montage,” “media remapping,” and “media visualization” (discussed further below). Manovich clearly did not coin these terms for the purpose of his writing. Rather, they emerged organically in his lab, out of practical necessity.

One of Manovich’s core tenets is that the “exponential growth of a number of both non-professional and professional media producers over the last decade has created a fundamentally new cultural situation and a challenge to our normal ways of tracking and studying culture.” He puts it more forcefully when he notes “the number of images uploaded to Flickr every week is probably larger than all objects contained in all art museums in the world” (29). Manovich is quick to note, however, that data science tools do not necessarily address humanist concerns without some tweaking. Their growth out of “big data” analysis for marketing companies make data science overly fixated on particular problems, but this does not mean that the same (or similar) tools cannot be easily modified for other uses. For example, data scientists normally try to discover generalities of behavior and see outliers as “noise,” whereas academic criticism often focuses on the exceptional. But the same data science tools can locate the exception precisely by determining the general. In fact, Manovich argues that data science tools could direct researchers to fascinating subcultures in strange corners of the internet that would otherwise be invisible—both to the humanist and the data scientist.

Cultural Analytics does not attempt to answer its epistemological question outright, so much as present various approaches that begin to scrape away at how to properly ask or frame such a question. Collectively, the many examples he gives offer up a broad picture of a problem that simultaneously suggests a different way of thinking *about* the question. It is attempting its own methodological paradigm shift—one undoubtedly needed when culture has already undergone such massive changes. Manovich confronts the reader with a problematic of visual culture fields: how can academics make claims about “culture” if we do not employ methods that allow us to parse the millions of daily digital interactions (in other words, the cultural artifacts or medial traces produced by users posting on many digital platforms)? He summarizes his position in the conclusion by stating:

To *explore* is to *compare*. And to *compare*, we first need to *see*. To see contemporary culture at its new scale, we can use data science methods and larger datasets. . . . If we do not learn to see at sufficient resolution what people today create and how they behave culturally, any theories or interpretations we may propose based on our intuitions and received knowledge are likely to be misguided. (254)

How to see one billion images, indeed? The “billion” refers to the billions of images that exist online via social media or other digital media platforms, such as Behance, Flickr, and

DeviantArt. Manovich convincingly argues that older methods of studying mass culture, by doing close readings of small samples, no longer work. This is for at least two reasons. First, in prior eras, “culture” consisted of relatively few pieces of media and few producers of that media, but today there is a vast range of professionals, amateur artists, and everyday users who contribute to a collective pool of mass media. Second, prior to more recent generations of computer processors, internet platforms, and software development, there was no feasible way to “see” one billion images, so other methods necessarily had to be used. But today this is not the case. In fact, data scientists, advertisers, and marketing companies *already* use sophisticated software to analyze hundreds of thousands, if not millions, of images *in real time*. It is precisely academics—and more specifically humanities scholars—who have refused to do so. Manovich challenges the humanities in a way that will undoubtedly make many uncomfortable, by sneaking in a polemic that suggests a complete transformation of the field. However, this is not a matter of inventing new software platforms so much as recognizing the capabilities already latent within data science tools and methods and bending them toward new ends.

Of course, Manovich cut his academic teeth on studying visual media, with the seminal *The Language of New Media*, which outlines formal qualities of new media while simultaneously acknowledging their history in older media, such as in the films of Dziga Vertov. It is refreshing to read an argument for the use of data science from the perspective of a scholar who is attentive to cultural studies scholars’ concerns. Manovich succinctly explains the difference between disciplines when he states: “The goal of the humanities and qualitative social science has been *interpretation*. . . . [T]he goal of quantitative social science has been *explanation*. . . . But data science has a different goal—*automation*” (138, emphasis original). Their respective goals drive their methodology, but this ultimately leads back to the epistemology question. The volume of media in our contemporary context has far exceeded what we can interpret or explain without tools that help us automate the process.

Manovich’s interdisciplinary interventions really shine in the book’s third section, “Exploring Cultural Data,” in which he develops the concept of *media visualization*. Manovich describes media visualization as “creating new visual representations from the actual visual media objects or their parts” (197). The book’s first two sections show how to use more traditional methods, but from a “cultural analytics” angle. His boldest claims, however, center around media visualization. Manovich proposes that ways of representing visual media through “software thinking” (another new term) can transform how average users “see” media. Media visualization thus has the potential to cause epistemological shifts that more radically break from nineteenth- and twentieth-century cataloging. He argues that one “should be able to see many patterns in one million images in the same amount of time it takes [one] to see it in a single image” (212). He compares this process to coming upon an open square in a busy city, and being able to “quickly detect and follow a multitude of dynamically changing patterns based on visual and semantic information: cars moving in parallel lines, houses painted in similar colors, people who move along their own trajectories and people talking to each other, unusual faces, shop windows that stand out from the rest and so on” (212). Referring to Vannevar Bush’s

1945 essay “As We May Think,”² Manovich criticizes current search and browser tools for large libraries (whether a Google Image search or one in an online repository such as DeviantArt), because they “[do] not allow serendipitous explorations of media collections or making research links” (214).

The key to Manovich’s distinction between historical methods of data visualization and software-specific methods of media visualization is that historical methods rely on abstracting data into simple shapes. Nielsen ratings turn the messiness of millions of viewers into a line graph that represents a TV show’s ratings over time. Whereas “media visualization involves translating a set of images into a new image that can reveal patterns in the set. In short, *pictures are translated into pictures*” (215, emphasis original). It is a way of reorganizing media so that they function as data, without abstracting their visual form into numbers. For example, in one media visualization created by the Cultural Analytics Lab, 776 paintings by Vincent van Gogh are organized by date (x-axis) and brightness (y-axis). This arrangement allows viewers to immediately grasp patterns in van Gogh’s work. The paintings are not visualized as a scatter plot of points. Instead, at each point along this plane, a thumbnail of the actual painting is placed. This allows the viewer to immediately understand—to quite literally *see*—van Gogh’s oeuvre organized by brightness. The van Gogh media visualization achieves the Lab’s goals through two properties. It does not abstract the visual objects (images remain images), and it is immediately legible, precisely because it relies on human vision rather than semantic categorization.

Overall, Manovich is generous toward the various fields he brings into the discussion even as he critiques them, but if he has one ax to grind, it would be with the inherent limitations of over-categorization. Throughout, he continuously encourages researchers to think of methods that do not rely so heavily on reductive categories, arguing that software liberates us from this constraint. In fact, many algorithms, such as Twitter’s API, do not parse data through categories, but rather let hundreds of categories emerge out of the data itself. But Manovich also recognizes the difficulty in changing this. The book’s conclusion, titled “Can We Think without Categories?,” is specifically devoted to this issue. Here the epistemological question is more explicit. In what Manovich calls “the most important [two] paragraphs in the book,” he reveals “[t]he ultimate goal of cultural analytics can be to map and understand in detail the diversity of contemporary professional and user-generated artifacts created globally—that is to *focus on what is different among numerous artifacts and not only what they share*” (251, emphasis original). He goes on to argue that in previous eras “reductive cultural theories” were necessary, because there was no practical means to “compare large cultural datasets.” But today any computer can “visualize thousands of differences among tens of millions of objects.” In a rare moment of didacticism, Manovich says that we “do not have any excuse” to not take advantage of new tools that elide this problematic of reductive categorization in cultural studies scholarship.

Cultural Analytics is one of the best books for teaching how to study digital culture with cutting-edge tools and appropriate methods. It would stand on its own as an

2. Vannevar Bush, “As We May Think,” *Atlantic Monthly*, July 1945.

instructive methods book, but it is much more than that. *Cultural Analytics* sneaks in a polemical and a potentially transformative perspective. An undergraduate student might find its methods interesting and “common sense,” but an academic already steeped in fields that study visual culture will undoubtedly find it to be a challenging read. This is not to say that all old methods should be abandoned, but Manovich’s arguments are too convincing—and relevant—to be ignored. Indeed, he states, “even if you have no intention of doing practical cultural analytics research yourself, you still need to become familiar with these new data-centered cultural techniques” (246). Internet media culture is too vast, ubiquitous, and pervasive to be thought of in isolation. Whether one is interested in studying the horrific rise of alt-right meme culture, the multimillion-dollar video game streaming industry, or the banality of amateur photography on Instagram—all of these phenomena affect our lives and must at least be *thought through* from a perspective that can grasp digital media’s vastness in some way. Otherwise, to use Manovich’s language, we will not see the millions of images we purport to study. ■

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