LEV MANOVICH (2020). CULTURAL ANALYTICS, LONDON: MIT PRESS CAMBRIDGE, PP. 336, ISBN: 9780262037105, HTTPS://DOI.ORG/10.7551/MITPRESS/11214.003.0001

Written by internationally recognized American scholar and media and communication professor Lev Manovich, "Cultural Analytics" presents readers with a comprehensive, in-depth analysis of digital communications media and its relations to various aspects of modern culture. An exciting book at the intersection of data science and media studies, presenting concepts and methods for computational analysis of cultural data. The author comprehensively presents concepts and methods for computational analysis of cultural data, with a particular focus on visual media. Manovich presents us with a well-structured and extremely thorough overview and precise analysis on the different methodological approaches to data with special emphasis on contemporary media trends. The founder of the field of cultural analytics, he broadly discusses the shift from "new media" to "more media". In 1999 he wrote the renowned "The Language of New Media" and now offers more updated concepts. Carefully displayed groundwork ensures even readers without excessive background knowledge regarding Big Data and the digital society, can easily follow his arguments and understand visualizations. The author directs his book for academic researchers and students in art, design, the humanities, social sciences, media studies, data science, and computer science; professionals working in design, photography, film, urban design, architecture, journalism, museum and library fields, curating, and culture management. But his intended audience is every-body who works with social media and the web in any role e.g. creator, blogger, strategist, manager, developer, marketer or PR specialist.

After all, contemporary media communication is often based on computational analysis of media artifacts. Furthermore, user interactions enable web searches, recommendations, filtering, customization, interactions with digital devices, behavioral advertising, and other operations that form common practices in the digital culture. The core ideas and principles that make digital media operations possible are introduced and described in the book in a gentle, non-technical way. Such an approach teaches readers how to explore cultural datasets. In the cultural framework applied, the individual, group and societal practices are explained to show how our hypermodern society thinks about using data and algorithms. "Cultural analytics refers to the use of computational and design

methods— including data visualization, media and interaction design, statistics, and machine learning— for exploration and analysis of contemporary culture at scale. One goal of these explorations is to enable us to see what hundreds of millions of people around the world today create, imagine, and value" (page 10).

The explored concepts and theories are put into a greater perspective, and results in an unbiased end-product that approaches all questions and debates by considering all sides of the arguments within the digital culture phenomena. Manovich both interlines and differentiates the phenomena from digital humanities, and his arguments are clear and well-established in research. He led for years courses on data visualization and digital media (precisely from 2005) and published numerous projects both online and in the Journal of Cultural Analytics. Now, in this book, he offers a not less than encyclopedic coverage on relevant topics and techniques, with a focus on a smaller number of topics explored in more depth.

After an exhaustive Introduction, Manovich divided the book into three parts, each consisting of three sub-chapters. The first part, called "Studying Culture at Scale", Manovich defines the field of studies, shows historical background and identifies the most vivid examples of the digital society and communication practices from a media-orientated perspective. The second part, titled "Representing Culture as Data", covers not only media but also digital-related: behaviors, interactions, and events. Manovich looks at the digital universe in terms of things that one can select for analysis. Cultural data, cultural information, and cultural discourse, as well as artifacts and experiences are identified and described. The third part "Exploring Cultural Data" focuses on methodology. Exploratory methods are used for studying visual media datasets are discussed. Manovich offers a few ideas fundamental to visualization theory and data visualization practice. He describes visualization as both a mapping from one domain to another, visualization as a reduction of information, and as a predominantly spatial representation (pp. 188). An inspiring aspect is that Manovich identifies a new paradigm, which he calls media visualization. He writes about sampling, digital image processing and clearly shows how to use image features for exploratory media analysis.

Especially after reading third part, it is evident that the visual dimension is central in "Cultural Analytics". Manovich points out the media angle of his considerations, and emphasizes that before we can "theorize" contemporary media, we need to *see* it, and this is not possible anymore without computers because of its new scale. His proficiency in that matter proved many projects, in which he worked as computer animator, motion graphics designer, software developer, media artist, and professor of digital art. This final and focal position, in my personal opinion as a media tutor, had most influence on the form of the book.

As to final remarks, readers can consume the book chapters in sequence, or just move to any chapter that interests them. Manovich, an experienced academic, makes each chapter relatively self-sufficient. Throughout the book, readers can find summaries of the already covered material and presentations of new material organized in numbered lists. Also, each chapter has its own bibliography, which in my opinion should be avoided. However, such an organization of the presented material and bibliography is probably more helpful when "Cultural Analytics" is used in classes.

All in all, given the extensiveness and the complexity of the book, detailed with illustrative case studies on digital analytics and visualized examples, the monography brings the contemporary theories closer to the reader. "Cultural analytics" could prove equally essential to seasoned experts seeking to deepen their knowledge of global digital media even further, and to newcomers from different social science backgrounds seeking a good entry point into this dynamic field. The academic but accessible writing style of Lev Manovich makes this book definitely worthy of both study and to be read for a deeper understanding of both media-universes, the visually-orientated and the digital.

Alicja Waszkiewicz-Raviv
UNIVERSITY OF WARSAW, POLAND