



A History of Digital Media

AN INTERMEDIA AND GLOBAL PERSPECTIVE

Gabriele Balbi and Paolo Magaudda



A HISTORY OF DIGITAL MEDIA

From the punch card calculating machine to the personal computer to the iPhone and more, this in-depth text offers a comprehensive introduction to digital media history for students and scholars across media and communication studies, providing an overview of the main turning points in digital media and highlighting the interactions between political, business, technical, social, and cultural elements throughout history. With a global scope and an intermedia focus, this book enables students and scholars alike to deepen their critical understanding of digital communication, adding an understudied historical layer to the examination of digital media and societies. Discussion questions, a timeline, and previously unpublished tables and maps are included to guide readers as they learn to contextualize and critically analyze the digital technologies we use every day.

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An Intermedia and Global
Perspective

Gabriele Balbi and
Paolo Magaudda

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Introduction

A History of Digital Media is an introduction to the study of the multifaceted phenomenon of digitization from a historical, intermedia, and globally-sensitive perspective. The book is primarily designed to be used as a textbook in media and communications studies or for those interested in familiarizing themselves with a historical approach to the understanding of technologies in everyday life, digital economy, and innovation processes. This does not mean that the book is of no interest to other readers. The book was, in fact, conceived on various levels to make it *of use* to students and teachers intending to adopt a historical dimension to digital media studies; to be *relevant* to scholars and researchers interested in digital media history and digital media as a whole; and finally, *accessible* to a wider readership interested in some of the technological and cultural changes that have influenced our everyday lives both now and in the past.

The book's historical perspective is its primary and genuine original feature. The history of computers, the internet, mobile phones, and analog media digitization is mainly narrated with a mixed combination of secondary sources (mainly books and papers) and some primary sources (including reports, newspaper articles, visual materials, and other documents). The main aim is to provide a broad picture and an extensive literature review on digital media history, combining a theoretically-driven perspective with a series of approaches (especially from Media studies, Science & technology studies, and Cultural studies) that only very recently have begun to talk to each other in a more systematic way.

As a result, this volume is a tale of interwoven phenomena, which date right back to the late nineteenth century and intensified from the second half of the twentieth century onwards. This is what we will call a *long term*, or *longue durée*, approach applied to digital society, although we are aware that, seen from the original perspective of French historian Fernand Braudel (see [Chapter 1](#)), this period of time would actually look rather short. Nevertheless, given that digital media studies generally focuses on the present or, at least, on the last two

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decades of digitization evolution, the decision to widen the time span of our analysis at least to the nineteenth century is a meaningful choice designed to provide a broad and consistent picture of the ways in which digital media became so relevant to contemporary societies. We also believe that this periodization brings out all of digital media's unpredictability, continual mutation, and the inextricable interweaving of digital *change* and forms of *continuity* with the analog media system. The dialectic between the two extremes of this continuum—change and continuity—is one of this book's cornerstones and a historically well-founded and pondered response to one of contemporary society's most fashionable, and at the same time misleading, *mythologies*: the idea of a permanent *digital revolution*.

But what digital media history are we talking about? Like all histories, the story that unfolds in this book is necessarily partial and selective. We have focused on three major digital media and on the consequences digitization had for the main analog media, inevitably leaving to one side a number of digital and analog media contexts, whose stories would perhaps be equally interesting. Our reasons for this were primarily space-related and we hope that the book will succeed all the same in offering a wide-ranging and variegated overview and suggest further avenues of in-depth study, which individual readers may decide to undertake.

Furthermore, as [Chapter 1](#) makes clear, we did not want to limit ourselves to an *event-based* history approach (the so-called *histoire événementielle* that the French Annales School, and Fernand Braudel specifically, attempted to avoid), in which the main aim is to set out events and dates in chronological order. Rather, the volume aims to identify crossroads, successful turning points and dead ends, and to throw light on the composite and heterogeneous set of processes and influences that contributed to the emergence of digital media: from the political and economic decisions made by governments and international bodies to the role of small, local startups and powerful global companies, to the unpredictable and unexpected forms of appropriation of digital technologies by end-users in different regions across the globe. The history of digital media in this book will thus be told from a range of points of view and by means of multiple interpretative tools with the aim of throwing light on the relationship between media technologies and the most profound political, economic, cultural, material, and symbolic structures that sustain the production and consumption of media in contemporary societies. And all this to gain an understanding of the way in which digital technologies have shaped diverse human cultures in various ways, but also of the ways in which they themselves have been influenced by social arrangements in a process that scholars in Science & Technology Studies often define as *co-construction* and *mutual shaping* occurring between society and digital media technologies.

In addition to the diachronic dimension, this book also brings in and adopts two other fundamental guidelines and perspectives: an *intermedia* approach and a distinctive sensitiveness to the *global range* of digital media development.

As far as the notion of intermediality is concerned, while readers will find separate chapters on computers, internet, and mobile phones (we decided to look at these three media separately and not all together for reasons of analytical simplicity and because scholarly work has traditionally separated them out), this book frequently underlines the need to consider digital media in its mutual and recursive interaction. The interaction and mutual influence of different media in the same historical period was also a feature of analog media. For some decades, therefore, media historians have been underlining the importance of studying every medium in relation to others. TV history cannot, for example, be understood without considering its institutional continuity with radio broadcasting, audio-visual contents, and practices originating with the movie industry, the role of new technologies such as satellites, VCRs, and remote controls, as well as social networks like YouTube or streaming platforms such as Netflix (where many cult TV series are produced and released nowadays). Nevertheless, there is no doubt that digitization has intensified and driven this phenomenon further and this change has been identified using a range of concepts and definitions specifically addressed at the beginning of [Chapter 5](#) (see [Box 5.1](#)). Not only are contemporary digital media increasingly interconnected but digitization's progress has also brought together and interwoven different and previously distinct devices, markets, aesthetics, and user practices. The result of this increasing digital media interdependence and intermediality is what we will define *digital media pattern* in the book's last and longest chapter, devoted to the consequences of digitization on analog media taking into account mutual influences between *old* and *new* and the fact that the analog media are often the working foundations on which "digital native" media have been developed and appropriated.

Finally, the book has adopted a perspective that is distinctively sensitive to the global changes that digital media are subject to. *Global* here does not imply that mention will be made of *every* country in the world but rather that the book will constantly swing between innovation centers and technological peripheries, thus analyzing specific case studies that are capable of bringing out all the geopolitical and cultural tensions and contradictions that digitization generates. As we will see, while production and appropriation of digital media are dominated by specific countries and areas of the globe (the Western world and the United States, at length, joined by Asia over the last decade), digital technologies are also making their way into other parts of the world with various degrees of complexity and some evident ambiguities.

The book is divided into five chapters—each with teaching material and exercises to be used by students to test themselves—and a conclusion. [Chapter 1](#)

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defines digital media, identifies fundamental tendencies in digitization and revises the theoretical fields, which can be considered a “tool box” for students looking for a well-founded historical interpretation of the digital media phenomenon. The two basic questions we attempt to answer in this chapter are: why and how write a history of apparently constantly changing and present-orientated technologies (such as digital media) generally interpreted as disruptive innovations and radical breaks with the past? And, which theories and concepts can we mobilize to build a more effective interpretation of the multiple tensions surrounding the role of digital media in our everyday lives?

Chapters 2, 3, and 4 develop the specific histories of three main digital media: computers, internet, and mobile phones. These communication media are emblematic of the so-called “digital revolution” but grew out of analog ideas and precedents. Their history interweaves with technological developments and political-economic and cultural dimensions just as both successful developments and dead ends, which turned out to be useful for the understanding of specific characteristics. The book will be as unhurried as possible and attempt to identify clear and perhaps overly simplistic periodization with the intention of supplying readers and students with reference time frames to facilitate study.

Chapter 5 is entirely devoted to intermedia logic, looking at how digitization has influenced analog media and paving the way to what we define in the chapter as a *digital media pattern*: a set of interlaced devices, markets, aesthetics, and practices in which the original media entities are still recognizable but have already metamorphosed into different and distinctive media environments. More specifically this chapter will analyze the emergence of the digitization process in relation to six specific sectors: music, books and newsmaking, cinema and video, photography, TV and radio, tracing the main tendencies through which the digitization developed in each.

In our conclusion, we will tie up the loose ends on certain processes and tendencies, focusing on the major *mythologies* that characterized the cultural emergence of this digital media environment and some *counter-hegemonic narratives*, underlining the constant dialectic between change and continuity in the shaping of digital media technologies in their recent or more distant past.

The book is then completed by two other resources: a series of boxes that are easily identifiable in each chapter and an [appendix](#) with statistical and quantitative data. More precisely, there are two types of boxes: one named *Documents* made up of short and relevant texts that are able to shed light on some specific episodes or technology in the long process of digitization; the second typology is named *In-depth Theory* because these boxes aim at deepening specific theoretical notions and at giving relevance to specific case studies emerged in the various chapters. Finally, the data [appendix](#) focuses on historical series able to show the main trends in the development of digital media at a

global level. Recombining data from institutions such as the International Telecommunication Union, the World Bank, Internet World Stats, market research firms, and many others, the reader will find together—maybe for the first time—comprehensive data and maps on computer, internet, and mobile phone’s penetration in major world countries and in world macro-regions from the 1990s to today.

All this considered, there are many digital media history-linked topics that this book will either not touch on at all or will receive just a cursory mention. On one hand, this is understandable when such a broad and comprehensive overview is attempted: stories have to be cut out and emblematic case studies selected to achieve a synthesis. On the other hand, as we will point out in the conclusion, this book is designed to act as the main entrance to a vast and still unfinished building an introductory starting point from which other paths and follows-ups will branch out in the future. A lot of work still remains to be done in digital media history and our main hope is that this book may stimulate, inspire, and motivate (including in its weaknesses and gaps) a next generation of media studies scholars and of media industry professionals to think about digital media in different and less taken-for-granted ways.

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