



## DIGITAL DECONSTRUCTION

Details of a paradigm shift

This is a copy of the manuscript of *preface* and *introduction* in English.  
A full translation in English will be published in due time.

The book was first published in Danish in 2015

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## PREFACE

My professional work is technology – but my private interests root in psychology and philosophy. I have long wanted to write a book about the combination, and did so in 2015 by way of my manuscript “Digital Deconstruction – Details of a paradigm shift”. The book could have just as simply been named “Fifty years of digitalization” – that’s what it is about – and it is my personal reflections of having lived through a digital transition. I decided on the title *Digital Deconstruction* as a hook to our mental picture and perception of understanding technology and media in a philosophical and psychological context.

The manuscript was originally written in Danish to serve as knowledgeable input to an absent political debate about the consequences of the digital transformation. Though Denmark is usually regarded as being in the forefront of digitalization by global standards, the debate mainly focuses on technological infrastructures. My book – in addition to my blogging – was to strengthen a further detailed debate about digital governance, digital economy, digital media and digital living, as every Danish citizen is already obliged to be “digital” in all dealings and communication with the national, regional and local municipalities regarding public services. However, my book wasn’t solely about Denmark. In a globally connected world, such issues need to be considered in a global context. Excitingly, a lot of comments related to that, and suggested that I translate the manuscript into English, which is the book you are about to read.

What will you get from reading it? You will get a journey through digital history with an overview and a look back – and a thought-provoking foresight into the next technological changes that will shape our way of thinking and living. In assistance, to understand and manage how to think about change, I will also supply a comprehensive psychological context. My overall intention is to tell how technology affects the way we think about it – and especially how it forces us to think differently.

As the book was intended to encourage my fellow-Danes to think a little deeper than *business as usual*, I concentrated on current Danish issues. In my translation, I have rewritten several passages to comply with international readers – but kept the Danish view for you to contemplate whether or not the so-called Nordic welfare model is more relevant or more ready to succeed in a digital transformation. It is not that easy being labeled the happiest country in the world – and to then go ahead and point out the flaws and what to do different. However, that depends on how you define yourself in comparison.

I was a part of the *1968-uprising* and have lived through some very rapid technological changes, beginning with the digital transformation in the telecommunication industry in the early 1970's. Throughout the eighties and to the start of the internet, I've been part of almost every initial digital project in Denmark, as well as several European and international projects. I have worked with many different industries in this transformation, thus making it into a career of analysis and strategy. I wasn't really engaged in contemplating the social and psychological consequences of technology until the mid-nineties with the rise of the internet, and wanted to learn more about what *digital* did to us – as humans and how we seemingly unquestionably accepted and adopted new ways of working and living.

Since then I've been a keen observer and columnist on why and how we organize ourselves in a digital society. I wish I had invented the phrase: *God, life, the universe - and everything else*. I didn't – but I often make this particular mantra my starting point for searching for the bigger picture and a systemic context before I throw myself into the detail. I hope my book will demonstrate this.

I have predisposed the book to begin with a chapter on the different ways we think. There are many theories on this topic, and I believe it's essential to get a grip on the basic concepts of philosophy and psychology before diving further in. However, my book is not a textbook in psychology, so it will be with a wide brush for the big picture – and I stress this to attain a discourse for the remainder of the book and in my concluding remarks on whether there is a conclusion or not.

Next follows a more technical part, with a popular description of the early developments from telecommunications network to present data-communication and the internet. I include a historical perspective because this might be relevant to people with “no history” in understanding the accelerating developments. The same applies to the chapters on broadcast and development of digital radio and television, as well as in the description of electronic data processing, to our present ICT-concept preceding our current digital technology. Looking ahead, I will discuss possible scenarios for future technologies and its impact on automating jobs – in particular what software algorithms and artificial intelligence will be likely to provide in autonomous expert-systems and what that means for our social constructions in different sectors, in economy and for democracy as we know it.

I will discuss media in contrast to its own perception of importance and function. In this chapter I am more observant and reflective in my description of the digital transformation, as it also involves a new definition of media literacy. In my conclusion, I will bind this together with an extended detailed version of characteristics of different mindsets in ways of thinking. My conclusion is rightfully named “Is there a conclusion?”, thus indicating that the book actually deals with many different themes and comprises a holistic approach, which has now become a requirement for us to contemplate in the choices we have to make for the future.

You could reasonably ask whether it is necessary (or even interesting) to know anything about digital technology, as long as it performs the function it was created for. My position is that it is important – not necessarily as an engineer or computer scientist – but as a minimum to have an understanding of the principles, the same ways we in primary school learn about scientific topics such as mathematics, physics, chemistry, biology, etc.

With that said, I did not intend for the book to be made into an academically compendium or textbook, so additional references can be found on my website, which also contains several other links to articles and books on the collective subjects. However, throughout the length of the manuscript I will pass on names and book titles for further reading.

*Carsten Corneliussen*

Copenhagen, 2016

## INTRODUCTION

Nowadays the *digital paradigm* is a general description of the times we live in. However, digitalization has been going on for at least the last 40-50 years and has had many names along the way – for example *The Information Super Highway* and *The Infobahn* back in the 1990s. Before that, it was referred to as electronic data processing, introducing the first commercial mainframe computers during the 1960-70s. Combining computers and telecoms led to the acronym ICT – Information & Communication Technology – and later on NGN – Next Generation Network. The Internet and the World Wide Web changed all that, and today we talk about the Internet of Things and a future Smart Society.

Some also address the digital paradigm as the beginning of The Information Age. The same way we refer to our present living as The Industrial Age, thus stipulating that the use of certain technologies define our civilization with a specific set of rules in politics and economy.

Most people credit the American physicist Thomas Kuhn as the first to define a paradigm shift in his book “The Structure of Scientific Revolution” (1962) – but in fact, Immanuel Kant addressed the nature of science revolution, or paradigms, back in the 18<sup>th</sup> century. Further use of the expression paradigm shifts is also accredited to both Austrian economist Joseph Schumpeter and Russian Nicolai Kondratiev in the early 20<sup>th</sup> century. They proved empirically that new technologies come in surprising waves that consequently disrupt the economy. The

word paradigm actually derives from Greek and means *example*. In today's modern language paradigm also refers to words like framework or worldview.

Using the word *deconstruction* is more delicate. It was originally a discussion made amongst philosophers and intellectuals in the 1960s. In this context it meant a critical outlook concerned with the relationship between texts and meaning in literature, though the Canadian media and communications theorist Marshall McLuhan also used the term in his book "Understanding Media – The Extensions of Man" (1964) relating to his now famous quote: "The medium is the message". McLuhan also coined the phrase: "The global village" long before the Internet. Today it is quite reasonable to use the word deconstruction as a postmodern term for contemplating various social sciences. It is also a technical term for redesigning older physical electronic devices into new digital hardware and software functionality.

My point with this historic reference is to introduce my book in a context of understanding that *change is inevitable* and manifest itself by introducing new technological inventions based on scientific breakthroughs, which result in necessary social adaptation and lead to a different behavior and thinking in all other areas. As humans, in our daily routines, we don't register the bigger changes on a day-to-day basis. Instead we see and recognize gradual innovations and improvements of our daily lives. Later, over larger timeframes, we then retrospectively point to a product or a service as the defining moment of change. Fifty years ago we weren't digital. Today we are. What changed, and when? My book will detail this, as well as look to future changes.

The Internet came about in just 20-30 years and has so far connected half of the worlds' population. All estimates indicate that the rest will be online within the next 5-10 years. The



appropriate question is then: what happens when the whole planet and all of its gadgets are digitally interconnected? It's more than a technical consideration – it has to be weighed and scrutinized in the larger context of social, psychological, financial and political implications.

Using our more and more advanced capabilities in understanding science, we also accelerate our developments, and newer technologies will define the next paradigm after digital. These technologies are generally identified as *genetics*, *nano* and *robotics*. Hence, the next paradigm is often referred to as *bio & health*. With this we are looking at a possible future, which claims that we may live for hundreds of years – or even forever as humans or digital identities – as we also believe that we can develop artificial intelligence at the same level of human beings, and later on, likely a super intelligence smarter than humans. This will create even newer breakthroughs in bio- and nano-technology and redefine robotics.

Are such futurist descriptions science fiction or reality? We are right now about to automate all work processes into self-services, much the same way the early digital automation already have resulted in self-service in travel and shopping. We see *bots* evolving around social media in the old version of web 2.0, already turning the internet into the present version 3.0 that specify *the semantic web*. Personal digital assistants like Siri from Apple, Amazon's Echo with Alexa Voice Service and recently introduced Google Home, will accelerate an intelligent web 4.0. And though the most topical talk right now is about robots (because they already exist as concrete elements in everyday life), newer technologies like drones and 3D printing have become commercially available, and it is more than likely that we will have autonomous, intelligent and self-thinking transport in a decade or two.

What we now call Smart Society – i.e. we put the little prefix *smart* in front of almost everything – is yet a vision of a global Internet of Things in an implied thinking that the next technological step contributes to an overall intelligent and interconnected world community, i.e. “the global village” as McLuhan, and others after him, point to as imperative for mankind’s future survival.

There is no political voice in what artificial intelligence and the next GNR paradigm will do to our present social constructions. The discussion of a new digital economy is increasingly revealing the disproportionate gap between the few very rich and the average worker, as well as the many really poor. The politicians do not address capitalism in need of any change. On the contrary, with a seriously exposed double standard of morality, the discussion is purely political showmanship based on the understanding that democracy has its overheads. And though an apparent visionary UN rhetoric is present – it’s really not powerful enough to be practical and do something real about poverty and unequal distribution of welfare resources.

Today’s worldview is that of competition and growth in a global economy. All former socialist regimes have adopted capitalism and market economy – and even the Nordic welfare states have abandoned their previous soft-socialism, and now subscribe solely to market economy, in which citizens are seen as a human resource to a needy GNP. But what human jobs will be left if all and everything is monitored and checked for rational decisions using intelligent expert systems and serviced by robotics? And what will the future roles of politicians and democracy turn into, if we eventually will have to introduce citizen-wages for people with no jobs?

Not all CEO's subscribe to the notion that *digital* is a paradigm shift to an information age. In fact most economists and banks advising governments and corporations, see the next step as the *4<sup>th</sup> Industry Revolution*. They may agree upon a disruption, but do so in very different mindsets of the future. However, the point isn't whether you call it one or the other – but how you interpret a disruption, which simply means *change*.

Our differences have until now been rooted in national sovereignty with very different perceptions of values by both cultural and religious definitions – but we are truly in need of rethinking our social structures relating to “digital” and to the next emerging paradigm shift.

Let's begin with the way we think.

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