

MEDr

OFFICIAL MAGAZINE OF THE DEPARTMENT OF BUSINESS STUDIES AT UPPSALA UNIVERSITY

Faces of Information: A Portrait of Prof. Jannis Kallinikos

LEON MICHAEL CAESARIUS

Mercury Magazine 2012, Summer (Special Issue on Information Technology), Vol. 1, No. 1, pp. 32-38.
Copyright © 2012 Department of Business Studies, Uppsala University [ISSN 2001-3272]

Downloaded from www.fek.uu.se/mercury



UPPSALA
UNIVERSITET

Department of
Business Studies

MERCURY

UPPSALA UNIVERSITY, DEPARTMENT OF BUSINESS STUDIES, BOX 513, SE-751 20 UPPSALA, SWEDEN



Faces of Information

by LEON MICHAEL CAESARIUS

He is not a computer scientist although he sets out to further our understanding of information and communication technologies (ICT). He is not a communication scientist although he tries to unearth the underpinnings of the transforming communicative structures of modern society. He is a supremely inquisitive organizational scholar and one of the most vibrant European voices on the international research scene that pertains to the social study of ICT and to information per se. **Jannis Kallinikos** is a professor of information systems in the Department of Management at the prestigious *London School of Economics*. The aim of his work is to investigate the implications of ICTs and of the proliferation of information on institutions, organizations and on our everyday lives.



He was born in the small town of Preveza on the Ionian coast of western Greece. Upon completing his undergraduate studies at Athens University of Economics and Business he moved to Sweden and to Uppsala University. He was awarded his Ph.D. in 1985 from the Department of Business Studies and following several positions in other European universities he joined the London School of Economics after the turn of the century. There he collaborated with among others the late Claudio Ciborra one of the foremost authorities on information systems. Today, Jannis Kallinikos is one of the world's leading experts and thinkers on the social and economic development associated with ICTs and the proliferation of information.

The interest for studying ICTs has been closely associated with the understanding of technology as a comprehensive medium for capturing and representing social and organizational realities. "I think I always approached

the issue and importance of ICTs as an important medium for the reproduction of communicative structures in our society", Kallinikos explains. Just as he started his academic career, Shoshanna Zuboff published her now very acclaimed book *In the Age of the Smart Machine* (1988). Highly simplified, Zuboff argued among other things that computerization (information technology) has two primary effects – it helps automate processes and, by its computational rendition of reality, it helps informate its users. Zuboff's work signaled an understanding of technology as predominantly a communicative medium and thus coupled what we now call ICTs with writing, accounting and printing (rather than industrial machinery) and, by extension, language, meaning and representation. Zuboff concluded that the involvement of computers in organizations transform work from a physical exercise into just reading and decoding of symbols and communicative structures. Kallinikos pursued this path of thought both empirically and conceptually.

This first acquaintance with these technologies ripened into a curious relationship that never seems to tail off into silence. On the contrary, Kallinikos has been faithful to the study of these technologies; an inquisitive companion with an increasingly expanding repertoire of issues under investigation. But information and its proliferation have received most of his attention. “I am studying ICTs and particularly the importance of information as distinct from the technologies in which it is mediated. These are slightly different things because you can study the technologies but you can also study what we today call content and information dynamics. The fact that content and information dynamics are possible to approach, to study and to understand without the immediate connection to the underlying technologies is a very interesting development that is occurring today”, Kallinikos explains.

The distinction between the mediating technologies and that which is mediated (information) is made possible due to the underlying compatibility and interoperability that these technologies are characterized by today. Many of the features of the Internet, or what Kallinikos chooses to call the digital ecosystem, can be mediated by a variety of technologies. The long-lasting Gordian knot of incompatibility has been severed today. “For essentially two hundred years, perhaps even more, the production of texts, pictures and records for instance was tied to a particular technology. These technologies were islands, they were incompatible; they could not communicate with each other. There was for instance no way to tie a record, the reproduction of voice with the reproduction of a text through a typewriter. But this is exactly what is happening today. The differences between technologies have been abolished and although the technologies that produce them are many, they are today compatible and interoperable”, Kallinikos continues.

While it has been dubbed the era of digital revolution, the current development of these technologies is simply another phase in our technological evolution Kallinikos argues. “There is a long development although we may not see it as such. First, the importance of writing and specifically, mechanized writing like typography. This was important for society but also significant for businesses. Here I refer to accounting and financial information, to the production of records comparable across time and across locales which was absolutely necessary for the establishment of big business. And this story has been told by many but most interestingly by James Beniger”, says Kallinikos. Beniger, a professor of communications and sociology at the Annenberg School for Communication of University of Southern California

put forward a vivid description of the origins of the information society. In his book *The Control Revolution* published in 1986 he connects the dots and traces the origins of modern information society to the need of control – and its vital component of feedback – to the early expanding mechanical production processes. It was inevitable, argues Beniger, that when control increases following the territorial expansion of operations you have to parallel that with increasingly more information in order to satisfy its need. “It is a dramatic and a complex process to explain in a few words but this is the beginning of the whole thing – the need to control the geographical expansion and functional complexity of business operations. In the mid-war years we had an immense production of stenographers, accountants, typewriters – all kinds of administrative work necessary to support the geographically dispersed operations of these organizations and the rising production volumes. Then, after the war, the first computer technologies emerged. Since then we basically have had a progression where these technologies developed and matured until the Internet arrived in the early 1990s”, Kallinikos explains.

The advent of the Internet was a turning point Kallinikos argues – the same kind of development but a different technology. What makes it so different is its comprehensiveness made possible by the deepening interoperability of information produced by a variety of software-based artifacts and technologies. “It really doesn’t matter which artifact or device you use for information. Once you are on the Internet, the information can be picked up by any other device. That is a very important development”, he continues.

The Internet has also meant the avalanche of data and never before seen growth of information. As information has assumed such an importance in today’s economic, business and governmental settings its proliferation has become self-propelling Kallinikos argues. He has spent considerable amount of time analyzing this issue in his book *The Consequences of Information* published in 2006. He claims that the proliferation of information has emerged as a distinctive mark of the late twentieth and early twenty-first century because, as he argues, “every activity or domain of contemporary life that becomes informatized does not expand the amount of information solely in proportion to the new data its informatization brings to the digitized circuits”. The relationship, he claims, between old and new data is seldom additive and he continues: “over the extended zones of interoperability which contemporary technology constructs, data from a large variety of sources can be combined in an equally large variety of ways with other data, thereby increasing

substantially the amount of information that can be produced”.

According to Kallinikos, the nature of digital information is very different from anything we have come across before in history making it troublesome to understand. “Any time you bring together information, you do not simply produce or add two different types of information but you create something completely new and this is very important to point out. Information is a different kind of creature. It is not like tables or any other physical objects. Once you bring together two types of information you can create another type, or more than one type. This possibility today of combining, producing and redeveloping information out of existing sources is enormously amplifying our capacity to use information and in so doing we produce more information”, he explains.

The need to produce and document operations in organizations in order to control them is stronger than ever before. The scope of informatizing has become much wider and the depth in terms of granularity much deeper. However there is also a need to produce alternative services and strategies. These are some drivers of the development we are experiencing today according to Kallinikos: “That need is being ushered into a new stage by the ability to combine information that previously was contained in independent silos. This is one of the most important reasons why we are experiencing the enormous growth of information and its ramification and involvement into mainly all walks of life”, Kallinikos continues.

The development of ICTs and the proliferation of information have had important implications for businesses – some are known, Kallinikos argues, but many remain unknown. “What is known is that technology permits businesses to combine and aggregate information flows from various sources in order to produce new services. Seemingly simple information-based services like for instance recommendations on eBay and Amazon are based on these principles. The issue of big data and data analytics signals however a distinct development. Data analytics refers to working statistically on available information – crunching big data in order to discover patterns that may not be immediately perceivable which by the way produces information out of information”, he explains. But we are only in the beginning of these developments according to Kallinikos. “There is indeed a lot of discussion today about big data and there is a lot about analytics. They are supposed in a way to address specific organizational needs whose solution can be buried into heaps of data and can be unearthed by data

analytics. In most of these cases you don’t exactly know what you are looking for in the data. That only tells me that we are touching upon the ever-present philosophical question concerning the relationship between reality and the ways we represent it by means of verbal or numerical means. The analytics age is in its very dawn. To move forward we need to understand and rethink what information is all about”, he continues.

Information is a different kind of creature, it is not like tables or any other physical objects

One of the least studied and poorly understood effects of the proliferation of information refers to the boundary of the organization towards its environment which Kallinikos argues is permeable in such a way that it makes the difference between what is inside and what is outside less relevant than it was before. “This has affected the space which the organization at some point thought it was its own. If you don’t know exactly what you are and what the environment is you become confused. This has always been a problem but it is much more of a problem now. It has been discussed and conveyed with terms as for instance distributed work, open networks and collaborative work”, he explains. When the boundaries become permeable it affects not only the identity of the organization but it substantially challenges what constitutes an organization today. “It affects the basis on which organizations are being constituted as specific and separate entities. This has been recognized yet touched upon and discussed only shallowly I am afraid”, he continues.

Digital information and its underlying technologies have also major implication on the inner workings of organizations. Information is not just an administrative companion any more. It has become such an embedded aspect of modern organizations that it ultimately holds the power to restructure them and change the domains

in which expert work is carried out. This is the subject of Kallinikos latest book called *Governing Through Technology* published last year. “In the book I investigate the implications of technology and information on social practices in organizations. And by social practices, I mean expertise and professions. Information is such a pervasive element today in organizations that it affects how operations are planned, executed, monitored and controlled. I think we have yet to understand its effects”,

The present is kind of expanding at the expense of the past

he argues. However, the proliferation of information also affects us and individuals and our everyday lives. Some would argue that the proliferation itself stems at least partly from the fact that consumers of information have also become producers of information. Can these previously separate roles be understood as intertwined today? True Kallinikos answers but that is not the complete picture he argues: “Yes, absolutely, but I like to add though that we also produced information before the emergence of the Internet. But that production of information was limited to the tasks, processes and operations within which people worked in organizations. What happened was that once this interoperability was established and once information and the processes through which it was produced, grew, broke away from particular institutions, organizations and businesses then the lay public was given the possibility to produce its own information on conditions that were largely and substantially different from the concrete tasks and operations performed before by for instance specialized clerks and information analysts”, Kallinikos explains.

Some debaters have considered the possibility given to individuals to not only consume but to also produce information as an instance of democratization. People have been given a voice in all domains leading to the rise of the amateurs in the connected world. To Kallinikos this is just one of many effects (and in parts a rather questionable portrayal of today’s reality) that has transformed our everyday lives. “I think that one thing we may all agree on is that we are currently witnessing the weakening, or the declining if you like, of mass media and the one-to-many communication patterns with centralized assemblages which gathered information and dispatched it to massive

audiences. I think also that we could agree this has much to do with the ability of humans to participate in lateral communication, in creating blogs and user generated content and convey mediated information in social networks. This development increases the capacity and democratizes the societies making them more open and transparent. But, democracy is not only an issue of being able to express what you believe. It is also an issue of controlling cacophony. In this sense I am not sure that the ability of everyone to say something and publish will end up making our society more reasonable and democratic. Cacophony is a particular instance of the proliferation of information without any ability to bring some order into that information. I am not sure this goes hand in hand with the way we understand democracy because democracy is also about responsibility, selection and about the respect of the privacy and boundaries put around the lives of others”, he explains.

Kallinikos describes this particular branch of the development as a double-edged process. He continues by concurring with the analysis that the American business writer and Pulitzer Prize finalist Nicholas Carr puts forward in his book the *Big Switch* published in 2008. Carr became known by creating something of a furor with an article in the May 2003 edition of the Harvard Business Review. In the article entitled *IT Doesn't Matter*, Carr claimed information technology has become ubiquitous much like earlier technologies such as railroads and electric power. In the *Big Switch* he develops important critique against the Internet asking whether the abundance of information also reflects depth of thought or is “really just a culture of mediocrity – many miles wide but only a fraction of an inch deep”. There are many who have put forward similar criticisms. One example is the Director of the MIT Center for Digital Business, professor Erik Brynjolfsson who in a co-authored article with Van Alstyne introduced the term the ‘Balkanization of cyberspace’. Kallinikos shares both Carr’s and Brynjolfsson’s opinions and he is skeptical as regards the unqualified assertion that the Internet is a vehicle for increased transparency in society. “What is possible to discern today is a self-referential logic in which like-minded groups are drawn around other like-minded groups without getting about transferring their views along the spectrum of different kinds of groups in the digital ecosystem”, he claims.

Particular kinds of opinions attract similar opinions and lead to the creation of social silos where information is not exchanged with the outside world, Kallinikos argues. There is ample evidence for that, he claims, and they don’t have to be based on any malevolent thinking. Like



Nicholas Carr, he uses as an example the work of Thomas Schelling, the 2005 Nobel Prize winner in economics. In an article published in 1971 entitled *Dynamic Models of Segregation*, Schelling provides a fascinating account for how extreme segregation may have an innocent cause as a result of biases being amplified through a network effect. “Using mathematical models Schelling showed that small differences in preferences could produce large aggregate differences. The fact that you just want to have fifty percent of your ‘own kind’ around you and the other fifty percent anything else does not make you a proponent of segregation. You just want to have some of your own but to some degree just that bias can produce enormous segregations Schelling showed”, Kallinikos explains.

But the quest for radical visibility has a different and darker side too. Perhaps it is best expressed by the concept of Panopticon – originally a circular prison building designed by English utilitarian philosopher Jeremy Bentham in the beginning of the industrial revolution. The building allowed inspectors to observe the inmates without them being able to tell whether or not they were being watched. A similar kind of infatuation with transparency through social media is possible to discern today Kallinikos argues. In his project *The New Everyday* he examines the rapidly changing basic daily routines of our lives. He points to how technological information through connectible digital devices such as smartphones and tablets “increasingly infiltrates and ultimately colonizes everyday living”. The devices may seem innocent, Kallinikos argues, but they obscure the complex technological arrangement from which they derive. “Together with information-based services mediated through traditional desktop arrangements they converge to establish a new framework within which everyday living unfolds. Ordinary experiences are increasingly cast in context and technological mediations that grant them novel qualities or attributes. A private party can be made a YouTube video and a family quarrel a Facebook story”, he writes. Kallinikos argument parallels to some extent that of American novelist Walter Kirn’s notion found in his 2010 article *Little Brother is Watching* published in New York Times. In the article Kirn compares George Orwell’s vision of technology found in the book *1984* with that of contemporary society. There is no big brother, is Kirn’s message, rather we have all become little brothers spying on ourselves.

The consumption of technological information has become almost like an addiction and we are not particularly aware of it, Kallinikos argues. While many would find information-based services such as Google Maps, Trip Advisor and similar services to be of great

convenience Kallinikos would like to balance the gains by emphasizing the flipside: “Nothing is for free so whatever you get on one side of life you loose somewhere else”, he told BBC reporter Bridget Kendall in a broadcasted interview last year. “What you loose is a more profound and intimate connection with things and with people. The experience of the city as you stroll through it, your perceptions! I call that embedded living and by that I mean living here and now where the whole range of senses can operate. This is of quite different quality than choosing through information that is delivered to you automatically. Embedded living is being replaced by a wider repertoire of choices which are however of a different kind – less deep, less intimate”, he explains.

The issue of choices is central to his description of the changes of our everyday lives. We are making more choices than ever before he argues and that is another effect of the proliferation of information. “Both the number of choices and the nature of them differs which make people feel confused because they cannot make active choices the same way as before. It somehow violates the traditional ways in which we have acted; I buy accidently, for reasons I don’t control. I buy because someone else suggested it to me through the automated services which to some degree is a great thing but also a very confusing thing. We make choices today which are being implicated in the connections of various kinds of links without ever choosing ourselves. This is a way from which the abundance of choices and information comes through”, Kallinikos explains.

The more choices we get the less chance there is to process them actively or else we become overloaded. The only way to cope with the situation is to apply filters. “But these filters are increasingly not chosen by us but are rather automated filters based on algorithms that draw on for instance profiles that a company has made of me”, Kallinikos says. And active choices require preferences which in turn are based on experience – an integral piece of the life of individuals. “The choices you make today are not really the outcome of choosing which reflects upon a long trajectory of life; it is not the outcome of preferences that reflect your own experience. It is rather the outcome of what information is available or can be made available to you at that very moment. This is also to say that the present is kind of expanding at the expense of, at least I would say, the past”, Kallinikos claims. Ultimately this development will affect how human life will develop because the faces of information are many and we have only become acquainted with just a few of them and that during a very short period of time. ■