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THE FIRST 15 YEARS OF THE NEXA CENTER FOR INTERNET AND SOCIETY[1]

Abstract

This contribution outlines the context and objectives of the establishment in 2006 - at the Polytechnic of Turin, but in close collaboration with the University of Turin - of the Nexa Center for Internet and society. The activities prior to the establishment of the center will be presented, underlining the international experiences that served as a model. The institutional structure of Nexa will be briefly described, as well as the main features of its community. The main activities of the first fifteen years of the life of the center will then be summarized. This contribution will conclude with a critical evaluation of the first phase of the life of the Nexa Center, with a look at the future in a profoundly changed context.

I Introduction

The digital revolution began in the USA in 1946 with the ENIAC, the first electronic calculator, but it was only with the personal computer starting from the late 1970s and with the success of the World Wide Web from the mid-1990s onwards that digital technologies began to reach very large numbers of people. To focus on our country, Italy, the first Internet service provider for residential users was established in 1994 and in 1999 there were already 3.6 million customers.

[1] This article is a revised and expanded version of an article in Italian by the same authors titled: "L'esperienza del Centro Nexa su internet e società", Atti e Rassegna Tecnica, LXXVI, 1-2-3, Dicembre 2022.

Between the end of the 20th century and the early years of the 21st century, some scholars, first in the USA (starting at Harvard University) and then also elsewhere, began to point out that the personal computer connected to the Internet was a general-purpose technology, i.e., a technology capable, like steam engines and electricity in the past, of sparking important innovations and transformations in many different fields. Moreover, the digital revolution was a revolution in communications technology, a kind of technology that, like the printing press, broadcast media or even writing itself, always cause profound cultural, social and political changes. Consequently, these pioneers believed that the digital revolution needed to be studied following an interdisciplinary approach. The first important experience of this kind started in 1994 at Harvard Law School, when Charles Nesson and Jonathan Zittrain founded the "Center on Law and Technology", which in 1997 became the Berkman Center for Internet & Society. In 1997 Jack Balkin also established the Information Society Project at Yale Law School.

In the early years of the 21st century, the insight that digital technologies required an interdisciplinary approach took root and set the standard. The names of the leading professors associated with the Berkman Center, such as those of Lawrence Lessig, William Fisher, Yochai Benkler, John Palfrey, Urs Gasser, as well as the aforementioned Nesson and Zittrain, became internationally renowned, and the Berkman Center's example began to be followed by other US universities, starting with Stanford University, which established an Internet and Society center, led by Lawrence Lessig, in 2000.

2 First steps

In Turin, there had been significant contacts with the pioneering US experiences. Since 1999, in fact, Marco Ricolfi, a professor of law at the University of Turin (with an LLM degree from Yale University), had been in direct contact with Lawrence Lessig, while Juan Carlos De Martin, a computer engineering researcher at the National Research Council at the Polytechnic, after an interest in the subject of free software and software patenting, was following the developments of a project led by Lawrence Lessig, namely, Creative Commons.

2.1.1. Creative Commons Italy

In December 2002, Lawrence Lessig and others launched the Creative Commons project with the aim of fostering a "Some Rights Reserved" approach to sharing copyrighted works. On 14 July 2003, Ricolfi and De Martin met for the first time and decided to propose to Lessig to establish the Italian section of Creative Commons. After receiving the go-ahead, an interdisciplinary working group made of lawyers and computer scientists and named "Creative Commons Italia" was set up, with the mandate of adapting the Creative Commons licenses to the Italian law, a goal achieved in December 2004. In the following years, the initiative attracted considerable interest. Clearly Creative Commons met the needs of large communities of artists and authors, as well as of institutions of various kinds, from the Chamber of Deputies to ISTAT (the National Institute of Statistics), from Turin's Egyptian Museum to Radio Radicale, from the daily newspaper "La Stampa" to the Wikimedia association, all more interested in disseminating their works with

certain constraints than in controlling their circulation according to the traditional "All Rights Reserved" principle. With De Martin's appointment as a professor at the Polytechnic of Turin in 2005, and the birth of Nexa in 2006 (see below), the Nexa center became Creative Commons partner institution for Italy, a role it held until 2018.

2.1.2. Harvard Internet Law Program in Turin

In 2004, the Polytechnic-based CNR institute (IEIIT), where De Martin still worked, invited – together with several partners – the Berkman Center to hold for the first time in Western Europe, in Turin, the prestigious "Internet Law Program" (iLaw). Turin's bid was accepted and from 25 to 27 May 2005, the iLaw Program Turin was held at the Fondazione Giovanni Agnelli. The lecturers, in addition to Charles Nesson, Jonathan Zittrain, Yochai Benkler, Willian Fisher and Susan Crawford, included, among others, Stefano Rodotà, Angelo Raffaele Meo and Marco Ricolfi. The face-to-face interaction with the lecturers of the Berkman Center established interpersonal relationships that last to this day and that led Ricolfi and De Martin to realize that to give continuity to the Creative Commons Italia working group, and to broaden its scope, it was essential to establish a stable organization on the model of the Berkman Center. Such awareness led to the determination of creating an Internet and society center in Turin.

3 The establishment of the Nexa Center

3.1.1. Foundation of the center

After a preparatory phase of about one year, which included time spent at Harvard to study the Berkman Center model in depth, the Nexa Center for Internet and Society was founded on 30 November 2006 with a communication during a meeting of the Plenary Council of the Department of Control and Computer Engineering (DAUIN) of the Polytechnic of Turin, where De Martin was now based. Administratively, in fact, the Nexa Center was established, following the indication of the then Rector Francesco Profumo, as a research group of the abovementioned Department of the Polytechnic which presented itself as a center. The strong collaboration with the Department of Law of the University of Turin, where Ricolfi was based, has been systematically publicized since 2003, but not formalized until April 2023, when a formal collaboration agreement between the two Departments was signed.

3.1.2. Motivations and objectives

At a time when the digital revolution was beginning to have significant social effects, the Nexa Center was established to promote an interdisciplinary dialogue on digital technologies and their interaction with society. The dialogue was initially mostly between the two disciplines which had kickstarted the initiative, namely computer engineering and law. Since interdisciplinary activities are only successful if lasting bonds are established between people, from the beginning Nexa – like the Berkman Center – strived to create and maintain a community not only of academics, but also

of practitioners, students, journalists, professionals, etc. The activities of the center were structured according to the three main missions of the University: teaching, research, and knowledge sharing, including a special attention to policy making. The motto of the Center tried to capture, at least partially, this multiplicity of missions: *"Studying the Internet, exploring its potential and experimenting new ideas"*.

3.1.3. Institutional and organizational structure of the center

Consistently with its administrative nature as a research group, Nexa was structured by establishing practices that were discussed and communicated, but not formalized in official documents. In a nutshell, the Nexa Center has three faculty co-directors: the two founding directors Juan Carlos De Martin and Marco Ricolfi, and Maurizio Borghi, who – after having served for many years as Nexa Trustee – became the third co-director on 1 September 2022. Besides the directors, Nexa has a Board of Trustees (initially invited by the founding co-directors and then evolved in agreement with the Trustees) with the task of expressing annual evaluations and recommendations on the activities of the center; the founding Trustees included, to name but a few, Yochai Benkler, David Post, Charles Nesson, Jean-Claude Guédon, Angelo Raffaele Meo and the late Stefano Rodotà and Philippe Aigrain (see the full list of our esteemed Trustees on the Nexa website). The Nexa "Fellows" (currently 26) contribute on a voluntary basis to the center's activities for the duration of one academic year (renewable), while the "Faculty Associates" (currently five - typically non-Turin-based) contribute mainly with ideas and suggestions. The day-to-day activities of the center (communication, digital infrastructure, administration, organization of meetings, etc.) are carried out by Nexa staff; since 2009 the Administrative Manager of Nexa is Selina Fenoglietto. If necessary, ad hoc personnel are hired to follow specific projects. The Nexa staff also include two Senior Research Fellows, Antonio Santangelo (Associate Professor of semiology at the University of Turin, formerly Nexa Executive Director) and Antonio Vetrò (tenure-track Professor of computer engineering at the Polytechnic, formerly Nexa Director of Research). The co-directors and the Nexa staff meet once a month to plan and discuss the activities of the center.

With profound gratitude to everyone who contributed to the success of Nexa during its first 15 years, whom we unfortunately cannot mention here in full due to space constraints (see the complete list on the Nexa website), we would like to at least mention the names of Federico Morando and Raimondo Iemma, who served as Executive Director and Managing Director of the center in 2008-2012 and 2012-2015, respectively.

3.1.4. Initial support

The Nexa Center was set up with the generous encouragement and support of the Berkman Center, with which many collaborations took place in the following years, and with the explicit support of both the Piedmont Region and the then Rector of the Polytechnic, Francesco Profumo (institutional support later generously confirmed by subsequent Rectors Marco Gilli and Guido Saracco). The Polytechnic contributed mainly by granting suitable office space on or near campus (at the beginning in corso Trento and then in via Pier Carlo

Boggio), while the Piedmont Region provided crucial start-up funding. From the beginning, the center aimed to place as little burden as possible on the host Department and therefore hired the staff it needed, including technical and administrative staff, at its own expense.

4 The first fifteen years of activity

The following is a selection of the main activities of the Nexa Center. For a more comprehensive understanding of Nexa's projects, guests, collaborations, etc., please refer to the Center's website. Also, the website hosts publications produced by the Center, from peer-reviewed scientific publications to reports, policy documents, position papers, translations, videos, podcasts, etc.

4.1.1. The public presentation of the center

On 22 January 2009, when the Nexa center was officially presented to the world with a public event held in the Aula Magna of the Polytechnic, the center already had several activities to its credit, including the COMMUNIA EU-funded project (see below) and the launch of its website in November 2008 with the first public statement of the center (a request to repeal the so-called 'Pisanu' decree, which had been severely restricting the availability of Wi-Fi networks in Italy.) During the presentation it was thus possible to take stock of the first experiences, in the presence of scholars and representatives not only of the Berkman Center (the then managing director Colin Maclay), but also of the institutions, including European and regional, with whom the first part of the road had been travelled. Stefano Rodotà's keynote speech offered methodological suggestions that would be kept in mind in the following years.

4.1.2. The Nexa annual conferences

Every year since 2009, typically towards the end of the calendar year, the Nexa Center organizes an annual conference, aimed at the general public. Over the years, several topics have been discussed, including, to name just a few, freedom of expression, artificial intelligence, the future of cities and open data. With guests also from abroad, the annual conference is an important moment of discussion for the Nexa community as well as for many other people and institutions interested in digital technologies and society.

4.1.3. "Nexa Wednesdays" and "Nexa Lunch Seminars"

For many years now, the Nexa Center has been organizing at least two public meetings per month (except in August): on the second Wednesday of the month the "Nexa Wednesdays" from 6 to 8 p.m. (from September 2022: from 5 to 7 p.m.) and on the fourth Wednesday of the month the "Nexa Lunch Seminars" from 1 to 2 p.m. Guests are invited to present a book, an article, a project or some other initiative and discuss it with the Nexa community. So far Nexa has organized more than 160 Nexa Wednesdays and more than 100 Nexa Lunch Seminars.

4.1.4. The Nexa mailing lists

Mailing lists have for decades been one of the main digital tools for connecting people interested in a certain topic. This connection promo-

tes a dialogue that can be easily stored in a list archive for later reference. The Nexa public list, established in 2009, is dedicated to any topic related to digital technologies and society, and for years now has involved approximately 800-900 people in an often-in-depth dialogue, including computer scientists, lawyers, scholars from several disciplines, entrepreneurs, professionals, teachers, public administration officials, journalists, activists, students. Nexa has also a one-directional list for announcements regarding activities of the center (over 300 subscribers).

4.1.5. The European project COMMUNIA

In 2007, Nexa was awarded its first EU-funded project (Andrea Glorioso, the first Nexa staff member, had contributed considerably to the proposal). It was named COMMUNIA (commons in Latin), a thematic network on the digital public domain financed with 1 million euro by the eContentPlus programme. The project, coordinated by Nexa, involved 36 partners which became 50 by the end of the three-year and a half project. COMMUNIA's main activity was to organize twelve international meetings, which took place all over Europe to carry out a broad discussion on the importance of the public domain for society, with a specific focus on policy making issues in the field of copyright. The project produced hundreds of articles, presentations, proposals, including the well-known Public Domain Manifesto, which was quickly translated by volunteers into several languages. The project also fostered the creation of a Brussels-based international association - still active today - dedicated to the defense and promotion of the public domain.

4.1.6. Public Sector Information Projects

In the years immediately following the foundation of the Nexa Center there was considerable interest in the potential of re-uses of government data, i.e., data collected by public administrations in the performance of their institutional tasks, and in the potential of experimentations with technologies and formats that had hitherto been little used. Nexa was first involved in a project funded by the Piedmont Region, EVPSI (2009-2012), and then in a more ambitious EU-funded thematic network, LAPSI (2010-2012). Both activities were explicitly geared towards supporting decision-makers and public administrations and requested the practice of the difficult art of dialoguing with dozens of different partners. The two projects contributed, on the one hand, to make the Piedmont Region the first region in Italy (and one of the first in Europe) to launch an open data portal, and on the other hand, to the reformulation of the EU Directive on "Public Sector Information". In later years the considerable technical, legal and economic skills and experience accrued while working at Nexa enabled some Nexa staff, in particular Federico Morando, to set up, after leaving the center, a successful spin-off company active in this area.

4.1.7. The European project EINS

In 2012, Nexa was one of the members of the European Network of Excellence on Internet Science (EINS) project. Although Nexa did not coordinate the Network, it was one of the main actors of EINS due to its already considerable reputation at the international level. Nexa co-organized one of the project's main public meetings, which took place in Brussels

in April 2013. Nexa also contributed to the development of the EINS-EB semantic catalogue, which aimed to facilitate the collaboration between researchers of different disciplines in the field of Internet Science. The semantic classification of the resources published in the catalogue has been supported by TellMeFirst (TMF), a Wikipedia-based natural language system designed and developed by the Nexa Center. Building tools able to use the open knowledge available to everyone on the Web is particularly relevant considering the current impact of the Large Language Models (LLMs) closed ecosystem.

4.1.8. The Global Network of Centers on Internet and Society

In December 2012, Nexa participated in a symposium organized by the Berkman Center dedicated to the idea of establishing a global network of centers on Internet and society. When the network was established in the following months under the leadership of Urs Gasser, Executive Director of the Berkman Center, Nexa became one of the eight founding centers, along with, among others, the Oxford Internet Institute, the MIT Media Lab and the Berkman Center itself. Between 2014 and 2016, Nexa coordinated the Network of Centers (NoC), which in the meantime had grown to include some 80 centers worldwide (now over 110). In October 2014 Nexa hosted in Turin an important NoC symposium titled: "The Evolution of the Internet Governance Ecosystem". Nexa is currently a member of the Steering Committee of the Network of Centers.

4.1.9. The Network Neutrality Bot Project (NEUBOT)

Regarding the issue of network neutrality, much discussed both in the USA and in Europe at the beginning of this century, the Nexa Center designed and developed a software tool that had the ambition, by carrying out appropriate network measurements, to detect possible violations of net neutrality. The project, carried out above all by Simone Basso during his PhD at Nexa and afterwards, became Nexa main software project and achieved international recognition. In more recent years another software project developed at the Nexa center, mainly by Marco Conoscenti, another Nexa PhD student, was CLoTH, a 'Lightning' network simulator, i.e., an auxiliary network to Bitcoin's 'blockchain'.

4.1.10. The European projects EDUHACK, STRATEGYHACK and CLIKC

The EU-funded Erasmus+ projects STRATEGYHACK and EDUHACK are aimed at implementing the European Commission's directives on education and learning through digital systems, improving teachers' skills and creating innovative learning and teaching tools. Specifically, EDUHACK, the first of these two projects, was responsible for organizing a series of "hackathons", in which participating universities were able to acquire experience useful to improve their teaching systems.
Aimed at capacity building of individual teachers, STRATEGYHACK is the follow-up of the previous project, which focuses on creating targeted courses for mid-level managers of educational institutions, also with the help of hackathons on the EDUHACK model.
CLIKC is a third European Erasmus+ project

to test innovative ways of training unemployed people in order to shorten the duration of their unemployment period. The project aims to create and test an innovative educational catalogue and a new distance learning tool, which also makes use of "Artificial Intelligence" algorithms and advanced data analysis techniques.

4.1.11. Collaborations with companies

Among Nexa's collaborations with companies (subject to the strict Center's transparency and accountability principles), the collaboration with the telecommunications operator TIM (Telecom Italia) stands out as good example of mutually fruitful interaction with a private organization. Over the past several years, Nexa carried out three projects with TIM title as follows: "Distributed architectures for private and efficient data management", "The New European Data Strategy: a comparison with the USA" and "The Metaverse and its opportunities". The first of these projects was concerned with observing the state of the art of practice and standards inherent to database management with distributed architectures, particularly through blockchain technology. The work aimed to reveal the criticalities that, especially in matters of privacy, that technology can cause, and what solutions can be found to address such problems. The second project aimed to clarify and point out the changes that will affect the EU data regulatory framework following the entry into effect of the so-called 'New European Data Strategy'. Considerable space was given to its future developments and to critical issues, comparing European initiatives with the USA, which has always been the hub of the data market. The third project critically explored the state of the art of virtual reality/augmented reality/metaverse, identifying both limitations and opportunities.

4.1.12. The Interuniversity Center "Scienza Nuova"

Building on the experiences of the Laboratory of Ontology (LabOnt) at the University of Turin and the Nexa Center for Internet and Society in 2019 the two Turin-based universities established the interuniversity center "Scienza Nuova", with the statutory objective of studying the digital revolution in an interdisciplinary manner. The new center started operating in the autumn of 2019, involving 12 departments of the University and 11 departments of the Polytechnic (i.e., all of them). In October 2019, the Scientific Board of "Scienza Nuova" elected Maurizio Ferraris (University of Turin) as Director, while Juan Carlos De Martin (Polytechnic) was appointed as Vice-Director. Unfortunately, so far, the potential of this inter-university initiative has remained largely untapped, at least as far as Nexa is concerned.

4.1.13. Teaching activities

After a few years of activity, the Nexa Center started to contribute to the Polytechnic's educational offerings and did so first and foremost with the "Digital Revolution" course. This was an elective, 6 credit course for undergraduates which, taking the fundamentals of computer science for granted, attempted to provide elements for an interdisciplinary understanding of the digital revolution. It did this through historical, legal, sociological and philosophical lectures, which were then complemented by group work allowing students to experience more tangibly some of the topics discussed in class. The course was offered for

the first time in 2012 and was turned off, like all the other elective courses, in 2021 (the last edition, therefore, took place in 2020). In addition to its strongly interdisciplinary nature, "Digital Revolution" was characterized by a collaboration with the Berkman Center, which for several years hosted - as a "summer intern" - a student from the course who had particularly distinguished himself or herself. The "Digital Revolution" experience proved very useful to design and propose additional courses at the Politecnico, i.e., "Digital Technologies and Society" course (Master-level Computer Engineering, 6 credits, recently revised as "Responsible Artificial Intelligence"), and, more broadly, for setting up the University-wide "Global Challenges", a mega-course (subdivided in 24 parallel courses, four for each of the six "Global Challenges") that, starting with the academic year 2021-2022, is followed by approximately 3,600 undergraduate students. One of the "Global Challenges" concerns the digital revolution, and one of the four digital-related courses is titled "Politics and Technology", a 6-credit course taught by Prof. De Martin together with Prof. Massimo Cuono, political philosopher at the University of Turin, and Prof. Isabella Consolati, historian of political thought at the Polytechnic. Another important Nexa-inspired University-wide initiative is Biennale Tecnologia, a large cultural festival on technology and society that debuted in 2019 and was then held again in 2020 and 2022. A third major project is the Politecnico-wide Theseus Center on Technology, Society and Humanity, established in Spring 2022, an interdisciplinary center based on the model of the Nexa Center, but not limited to digital technologies. For more information on the "Global Challenges" course, on Biennale Tecnologia and on the Theseus Center, as well as other initiatives involving humanities and social sciences at the Politecnico since 2018, when J.C. De Martin became vice rector for culture and communication, see the article by Guido Saracco (Rector of the Polytechnic) and J.C. De Martin titled: "Scienze umane e sociali per l'ingegneria: l'esperienza del Politecnico di Torino dal 2018 a oggi" [2].

In the legal domain, it is worth mentioning "Copyright X", a 4-month annual online course inaugurated in 2013 by Harvard Law School to cover the subject of international copyright law based on the teaching of Prof. William Fischer (who is also Faculty Director of the Berkman Center). The Law Department of the University of Turin is one of the three founding partners of the project and therefore its students are exempt from fees. The inflow basin includes students of the Master's course that the Law Department has been organizing for twenty years with the United Nations Intellectual Property Agency (WIPO) as well as students of the Polytechnic of Turin.

5 Critical evaluation

Some of the main original goals have undoubtedly been achieved. Over the years, in fact, a vibrant interdisciplinary community has been established, ready to contribute to the analysis of problems related to the digital revolution. The involvement of a wide audience, carried out at multiple levels and using multiple channels, has also been effective; and the same can be said for the teaching activities, as witnessed by the success of the *Digital Revolution, Digital Technologies and Society* and

[2] Atti e Rassegna Tecnica, LXXVI, 1-2-3, Dicembre 2022, http://art.siat.torino.it/wp-content/uploads/2022/12/A_RT_LXXVI-demartin-saracco.pdf.

Politics and Technology courses. The relationship with other international institutions and communities has greatly enriched the debate at and around the center and has earned the Nexa Center a respected position in the intellectual and scientific landscape. The interdisciplinary, or transdisciplinary, approach has paid off also regarding activities to support policymakers, an area in which Nexa excelled at many levels, from the local to the international one. From a disciplinary point of view, the two disciplines that founded the center, i.e., law and computer engineering, have been joined over the years by several other disciplines, both via people in the Nexa community (e.g., economists and philosophers) and during the center's many activities and projects; however, a further strengthening of interdisciplinary dialogue in all directions is desirable.

Regarding research, we believe that the center's output has been overall satisfactory, but difficulties were encountered especially on the computer engineering side. This is because in Italy interdisciplinary research is difficult to pursue, especially after the establishment in 2011 of ANVUR (National Agency for the Evaluation of the University System and Research), which with its practices and constraints has made disciplinary boundaries even more insurmountable than in the past. This represents a very serious obstacle for a center such as Nexa, which is constitutively interdisciplinary, first and foremost because of the serious risks for young researchers, particularly in computer engineering, who want to work on topics at the boundaries of their discipline. Recruiting young scholars for research on topics of interest to the Nexa Center is therefore difficult and costly in most respects.

Looking back, we cannot avoid mentioning the COVID-19 pandemic. The pandemic was a tragedy at many levels and its consequences will be felt for decades to come in our societies. For the specific case of Nexa the pandemic made us understand how much in person meetings and collaborations were crucial for a community-based center like ours. During the pandemic, in fact, Nexa, continued to function online, just like most other activities, but something important was being lost; the community ties were being strained and weakened. In 2022, therefore, Nexa made a deliberate effort to revive as much as possible in person meetings and now the community seems to have fully recovered its strength.

Another critical issue is funding. On the one hand, Nexa needs to find funds to cover all its expenses autonomously, but on the other, it decided to follow very strict rules concerning funds from private sources, particularly companies, sources which could jeopardize its autonomy - or even just the perception of its autonomy. The center's independence, in fact, must be safeguarded in an era of pervasive influence, even in universities, of the money of the main industrial players, above all the US-based so-called "Big Tech" companies. After the Piedmont Region supported start-up phase, Nexa has so far managed to maintain a good level of activities thanks mainly to projects funded by the European Commission as well as some donations. However, the success rates of EU funding proposals are across the board getting lower and lower, and therefore, even though we participate in many proposals, there is always the risk, as it has already happened in the past, of racking up a series of failures, with corresponding impact for Nexa's budget. Moreover, European calls are on average only partially aligned with Nexa's scientific and cultural interests. In other words, it is only rarely possible to carry out research in

areas considered truly relevant and interesting by the Nexa community; this would require sources of no-strings-attached funding, which, however, are extraordinarily difficult to find in the Italian context.

6 Conclusions

6.1.1. A profoundly different context

In the first decade of the 21st century digital technologies and society was a field at the boundaries of knowledge, especially in Italy (but also more broadly in Europe). Few people, in fact, had fully understood the broad and disruptive implications of the digital revolution. Fifteen years after the foundation of Nexa, this is no longer the case: the number of scholars dealing with the subject, in fact, has grown considerably, even though – for the reasons outlined above – truly interdisciplinary research is still rare in Italy. At the same time, during the life of Nexa, several US-based digital companies linked to the Internet revolution, such as Google, Facebook and Amazon, have grown enormously – not only economically – and have joined, in power and wealth, the large companies that were born with the personal computer revolution, such as Microsoft and Apple. The digital landscape has thus become highly asymmetrical and concentrated. The same period saw the extraordinary, even planetary spread of a very particular personal computer, namely, the smartphone, a machine now owned by roughly 50% of the world's population. In 2023, therefore, as we write this article, the digital world is profoundly different with respect to the digital world of 2006, when the Nexa center was founded. In addition, since 2006 many other aspects of reality have also changed. The Nexa Center, in fact, was presented to the public in January 2009, i.e., in the agitated months following the deflagration of the 2008 economic crisis. Essentially the entire life of the center, therefore, has been characterized by a context of severe austerity (in Italy at all levels: municipal, regional, national and EU), of tightening neoliberal policies in the university (the so-called "Gelmini Reform" of Italian University between 2008 and 2010, the already mentioned establishment of ANVUR and much more: see the 2017 book *"Università futura – tra democrazia e bit"* by J.C. De Martin for more information[3]) and the increasing tensions at the international level. Added to this are the consequences, of all kinds, of global warming and of increasing inequalities. And while Italy continues to fail to find a way to reverse the degenerative processes of the last 30 years (first and foremost deindustrialization, with a corresponding unprecedented decrease in GDP per capita and wages, and a severe natality decrease), Turin continues to struggle to find a new, largely post-FIAT direction capable of guaranteeing well-being to its population, as shown, among other things, by the constant decrease of its inhabitants. In such a problematic context, the Nexa Center's focus on the social aspects of digital technologies has naturally become sharper and sharper.

6.1.2. Looking ahead to the next 15 years

The global changes sketched above force us to consider a framework that has changed profoundly since 2006. Many things could be said, but we limit ourselves to two priorities. If in the past, we have had mostly European

[3] The book, in Italian, is available with a Creative Commons license here: www.universitafutura.it.

and American scholars and research institutions as our main points of reference, today our attention needs to include also interlocutors rooted in the rest of the world. Likewise, the question of exploring countervailing powers capable of opposing the dominance of the information giants becomes a priority. What does not change, and indeed becomes even more central considering the social and environmental changes, is the public purpose and the pursuit of the general interest, which have always guided the Center and sustained its critical independence. In this regards, perhaps it is time to adapt the motto of the Center: from the somewhat optimistic *"Studying the Internet, exploring its potential and experimenting new ideas"* to something soberer and more socially conscious, perhaps something along the lines of *"Exploring the consequences and the potential of digital technologies for humanity and the planet"*.