Technology and human rights in the digital era: Counter-hegemonic responses

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1. Introduction[1]

The digital revolution has caused deep systemic transformations in contemporary culture and society to the extent to which we can speak of a new information age. Many of the debates surrounding justice and sovereignty, particularly human rights, have moved towards the digital arena without them or their underlining foundations being redefined. In the current context of inequality and injustice, digital struggles are also emerging as a lever capable of reawakening the political imagination, proposing alternative future scenarios and politicizing many contemporary institutions and problems.

Digital rights outline a way to rethink the present and build futures beyond those defined in Silicon Valley or Beijing. To this end, the aim of this report to review the concept of digital rights and place them in the geopolitical context from a counter-hegemonic perspective. The paper firstly examines the periphery of the geopolitics of technology with a special emphasis on civil society initiatives and communities, showcasing movements in the global South.

1 This paper summarises the report by the same authors *Invertir los ejes: alternativas tecnológicas, derechos humanos y sociedad civil a principios del siglo XXI*, also written within the framework of the Global Digital Justice project. The original report is much more extensive and is available on the Tecnopolítica group's website (in Spanish): https://tecnopolitica.net/es/content/desplazar-los-ejes-alternativas-tecnologicas-derechos-humanos-y-sociedad-civil-principios; and on the project's website: https://www.oxfamintermon.org/es/derechos-digitales-justos-igualitarios?hsLang=es

This paper is structured into six chapters, the first of which is this very introduction. The second gives a brief overview of digital rights, while the third covers hegemonic centres of technological power. The main theme of the report is elaborated in chapter four, which examines the current geopolitics of technology and presents related initiatives and challenges to it coming the periphery of civil society. The fifth chapter explores the greatest uncertainties that societies are currently facing and formulates proposals for three main areas: ecology, economics and politics with regard to sovereignty and digital human rights. Lastly, the report ends with some brief conclusions.

2. Digital rights

Digital rights – understood as an update of human and fundamental rights related to tech and digital societies – are numerous and diverse. The list employed in this paper is based on the recent European Declaration on Digital Rights and Principles for the Digital Decade, published in January 2022.

Classified according to their relationship with dig tal technologies, these rights are separated into three groups:

- those considered 'rights in the digital environment', i.e. existing rights that move to the digital environment, which sometimes leads to changes in how they materialize (e.g. right to freedom of expression;
- 'actual digital rights' or 'technological rights' related to people or groups with new realities such as the internet, digital data or artificial intelligence systems (e.g. the right to internet access); and
- 'digitally affected rights', which in this case are not related to the transferral of existing rights to the digital environment but the impact this environment has on rights (e.g. the right to dignified work).

3. Hegemonic centres of technological power

3.1. The United States: digital capitalism

It has become commonplace to attribute the success of the United States (US) as a global tech power to the strengths of the free market, personified by Silicon Valley entrepreneurs. However, an in-depth analysis of the evolution of industrial investments made by North American executives after the First World War reveals how the country was interested in its industries being able to define trade rules in the rest of the world and therefore lead the global digital industry. The geopolitical bases of the digital world that we know today were founded upon this 'multi-sectorialism' composed of the government and the private sector and accompanied by an ideological language based on the freedom of connecting to (and consuming through) the internet.

From the 1990s, the main US companies were navigating towards data exploitation, a process that Dan Schiller coined as 'digital capitalism'. The dot-com bubble's bursting accelerated the process of commodifying user activity and their personal data by selling services such as personalised advertising. Individual and social behaviour thus became the object of constant surveillance, selective intervention and commercial use. The new millennium, and moreover, the September 11 attacks in 2001 represented a radical shift in the way surveillance and monitoring would be carried out through digital information. The centrality and scope of the information intervention in the Patriot Act, for example, were exposed by the revelations disclosed by Edward Snowden on the mass spying activities carried out by the US National Security Agency.

Besides these trends, we can add the accelerated digitalization of societies, especially after COVID-19, which further secured the hegemony of Silicon Valley. The global expansion of MAMAA[2] – Meta, Apple, Microsoft, Amazon and Alphabet – has imposed the data extractivism model and the surveillance economy across the world, exerted its power over digital infrastructures and prototyped a new form of colonialism adapted to digital societies that other actors are emulating.

2 The acronym MAMAA was previously known as GAFAM (Google, Amazon, Facebook, Apple and Microsoft) and reflects the more recent changes to commercial developments, branding, ownership and market position. Reference to this new name: M. Quiroz-Gutiérrez. (29 October 2021). *Not FAANG but MAMAA: Jim Cramer reveals new acronym for the 5 largest tech giants. Fortune*.

3.2. China: State technocapitalism

China is one of the biggest global powers that has not joined the global market following the model promoted by the United States. On the contrary, the Chinese state followed its own tech development strategy, allowing it to appear as an alternative to the North American power.

The Chinese digital development model is based on the massive technology transfer, which arrived from the USSR in the 1950s and 1960s as part of its internationalist socialism programme in the context of the Cold War. From the 1970s, China furthered its technological independence. Said strategy included restructuring the telecommunications networks designed to attract foreign capital.

From the 1990s, the Chinese strategy focused on promoting technology modernization by integrating differentially into global capitalism. China bolstered tech component manufacture while normalizing diplomatic relationships with the United States. This combination of state leadership and conformity with the global market led to an unprecedented technological development, given its speed, in the history of telecommunications.

If everything were to happen as foreseen in the Chinese state's plans, the country will develop digital infrastructures that are extremely likely to become hegemonic within a few years. This will help China occupy a central position as an internet of things (IoT), artificial intelligence (AI) and cloud computing service provider.

China has started expanding the scope of its technological-industrial development proposal to countries where the United States is totally or partially absent, which is becoming known as the 'New Digital Silk Road'. The fear of some hegemonic actors – like the United States itself – lies in that the global internet, and therefore the global market whose rules it has tried to shape, will be split into two independent systems.

3.3. Europe: the third way

The posture of the European Union's (EU) technology policy towards the technological side of the geopolitical clash between the United States and China has varied considerably since 2016. It was at that time that most key EU states and companies opted for Chinese Huawei to roll-out the 5G action plan. Recently the Commission, the Council of Europe and different member states have launched measures aimed at scrutinizing or restraining this and other Chinese companies from being involved in the deployment of said infrastructure on the European territory. However, the doubts have not been limited to China. In this sense, the EU's Court of Justice has invalidated the EU-US Data Protection Shield – the agreement that regulated the transfer of European citizen's data to processors in the United States for commercial purposes.

In fact, in economic and technology terms, Europe lives under the United States' digital model. Most of the 485 million European citizens consume digital services from US companies. The Silicon Valley giants take advantage of their dominant position to apply tax-engineering operations (e.g. locating their headquarters in countries with more lax tax laws, such as Ireland, in the case of Europe) and avoid paying taxes on the profits made in each of the member states.

Given this situation, the EU is trying to contest China and the United States' digital hegemony with four strategies: 1) establishing a legal framework that defines a single digital market with a set of digital rights, 2) enforcing its soft power as a regulatory power of supranational bodies, 3) aligning its green transformation and digital transformation strategies, 4) imposing sanctions for monopolistic practices and taxing digital services.

In this context, the concept 'digital sovereignty' has gained traction. In 2020, the European Parliament published the document *A digital sovereignty for Europe*, in which it describes digital sovereignty as 'Europe's ability to act independently in the digital world and should be understood in terms of both protective mechanisms and offensive tools to foster digital innovation'. The European data protection framework outlines an idea of digital sovereignty that covers everything from personal to supranational matters and which implies acknowledgement of citizens' fundamental rights with regard to their data. Said framework has had replications on several legal systems such as those of Brazil, Japan, South Korea and New Zealand. The General Data Protection Regulation (GDPR) has therefore become the international standard that defines privacy rights, and is now considered the lingua franca of digital law in this key area of the new economy.

However, the European strategy cannot overlook the deterioration of member states' balances of payments – whose hands are tied with expenditure ceilings – or the pitiful state of most of their digital technology sectors, all resulting in reduced manoeuvrability. On the one hand, the EU seems to be committed to developing a political and legal framework that promotes a (somewhat contradictory) green digital transition, while on the other, it delegates the direct control and exploitation of productive forces involved in said transformation to the private sector (often led by US and Chinese companies). In view of this situation, the European rhetoric hardly finds a translation into technological policies able to support an alternative development to those proposed by the United States and China given the weakness of its role in international institutions.

4. Other axes: other alliances from the periphery

4.1. The global South and digital colonialism: from technological underdevelopment to infrastructural capture

The prescriptions of global power centres have always been aimed at preventing the peripheries from developing their own infrastructures – whether technology- or energy-based – which allow them to be fully self-sufficient. One of the main mechanisms to favour underdevelopment has been trade policy. Through the General Agreement on Tariffs and Trade (GATT), an organism through which the United States expanded its trade rules to the rest of the world, trade sanctions were imposed against Brazil due to its 'unfair trade practices' in information technology.[3] GATT was one of the key tools for disrupting the national markets in Latin America and other periphery regions and open them up to foreign investment, following the policies of neoliberal globalization.

Global South countries are forced to access the global market to buy the innovations that allow them sustain and develop their industries. With regard to technology, at the core of every development policy, the global North's geopolitical strategy consists of making the rest of the countries dependent on its technology. That is, every relationship between the parties is built on an asymmetrical exchange. The priority technology and science transfer is from the core to the periphery, while the data flows, prime materials, cheap labour and profits go, predominantly, from the periphery to the core.

Today, this situation is both the cause and result of a triple capture: political, economic and, above all, infrastructural. Political capture takes the form of traditional lobbying: foreign lobbyists and governments manage to mould public policies in these countries through different forms of pressure, influence peddling, corruption, etc. It is no coincidence that three of the ten companies that most invest in lobbying are tech companies, with Google leading.[4] Economic capture is about establishing economically dependent relationships. That is, once the companies of a country like the United States have successfully – thanks to their political influence, among other factors – imposed their conditions and conquered the market, the resulting economic ecosystem becomes dependent on both the external

3 Sara Schoonmaker comprehensively describes this episode in *High-Tech Trade Wars: U.S.-Brazilian Conflicts in the Global Economy* (Pittsburg, PA: University of Pittsburg Press, 2002). The war that Schoonmaker considers 'one of the most important high-tech trade wars between two countries,' escalated after Brazil employed a strategy to develop its computing industry in the 1970s.

4 For further reading: https://transparency.eu/wp-content/uploads/2021/02/Deep_pockets_open_doors_report.pdf

demand for primary resources (e.g. rare earth elements,[5] cheap digital workforce) and on the product offer, if not on the financial or human resources (including cognitive resources). Moreover, there are technology-dependent relationships, especially in the area of digital infrastructure. These infrastructures are increasingly necessary in all aspects of life, from private communication to providing quality public health services. The state itself (and not only in the traditional 'periphery') becomes dependent on platform capitalism companies. This results in subaltern social actors and institutions ceding land to the interests of third parties, in this case, corporations but also states and other social actors.

All of which, ultimately, goes hand in hand with establishing unequal relationships. These inequalities occur in spheres ranging from work and education to health and technology by 'adverse digital incorporation' in global circuits. This concept suggests the 'inclusion in a digital system that enables a more-advantaged group to extract disproportionate value from the work or resources of another, less-advantaged group'.[6] This approach allows us to explore 'why, how and for whom inequality can emerge from the growing use of digital systems in the global South'. This is where global inequalities in access to infrastructures and digital services can be observed. For example, almost 38% of countries classified as global North have public points of interconnection with one of the four big Silicon Valley technology companies, while this figure is 16% in the global South.[7]

In this context, a more in-depth understanding of the concept of digital colonialism is essential. Electronic colonialism[8] – more recently recoined as digital colonialism[9] (and with it data colonialism[10]) – has been a topic of discussion since the 1970s, and its colonial or neocolonial nature[11] has been debated. Fundamentally, the concept refers to processes through which Big Tech[12] extract, process and use people's and nations' data, knowledge or labour power in the global South with marginal benefits for them. To this end, they take advantage of countries' wealth of resources, inadequate legislation (often not applicable when trying to approximate to the European GDPR model) and infrastructural poverty (especially but not only in regions like Africa), while justifying such, more often than not, with a veneer of humanitarianism.

These colonial and neocolonial processes often go hand in hand with the constitution of monopolies or oligopolies controlling digital infrastructures, something in which there are not too many differences with the global North. On the one hand, many of the digital industry processes are offshored to these countries in a bid to lower costs of all kinds, from labour costs to environmental costs. On the other hand, many of these processes go hand in hand with legal and illegal capital flows that facilitate operations in territories where economic informality and political corruption run rife.

This approach allows us to understand the way in which peripheries are generated on the geopolitical scene opened by digital technologies. Firstly, we observe that the territories are conceived as spaces of conquest to extract the most resources possible through extra-economic means, i.e. via political or legal mechanisms that facilitate entrepreneurial behaviours such as data expropriation, labour power, minerals, energy resources, space for waste, etc. That is, if one of capitalism's main characteristics is to obtain resources in-

5 Ricardo Prego Reboredo explains what rare earth elements are and their impact (in Spanish): https://www.csic.es/es/ciencia-y-sociedad/libros-de-divulgacion/coleccion-que-sabemos-de/las-tierras-raras

6 More details: https://doi.org/10.1080/02681102.2022.2068492.

7 Puede encontrarse más información sobre la distribución de las infraestructuras de la información en el Norte y Sur global en: https://onlinelibrary.wiley.com/doi/10.1002/poi3.278

8 H. Shiller. (1976). *Communication and Cultural Domination.* International Arts and Sciences Press.

9 R. Avila Pinto, R. (2018). *Digital Sovereignty or Digital Colonialism.* SUR-Int'l J. on Hum Rts., 27, 15.

10 N. Couldry and U.A. Mejias. (2019). *Data Colonialism: Rethinking Big Data's Relation to the Contemporary Subject. Television & New Media,* 20(4), 336–49.

11 M. Mouton and R. Burns. (2021). (Digital) *Neo-Colonialism in the Smart City, Regional Studies.* Available at: blob:https://web.telegram.org/6bbff18e-65d6-48c7-ad5b-8db7ee6d3545

12 The 'Big Tech' concept refers to large technology companies that operate on a global scale. Besides the aforementioned MAMAA (Meta, Apple, Microsoft, Amazon, and Alphabet), previously known as GAFAM, it often includes the Asian BAT (Baidu, Alibaba and Tencent).

expensively or free, then the peripheral countries are key spaces to guarantee the enabling conditions for capital accumulation to exist. In this sense, it can refer to the mass extraction of mineral resources, rare earth elements or lithium to manufacture cables, chips, batteries, electric vehicles or other components, carried out by child or near slave labour. Waste spaces for all of these technologies should also be mentioned here, which are often located in global South countries. Moreover, the expropriation of other resources, such as cognitive resources, should be highlighted. This includes huge volumes of personal, social, territorial data or information, etc. that flow from these countries towards the technological centres. Without this huge mobilization of inexpensive or free resources, the second type – economic exploitation – could not be understood.

Many ways of working have been created in the global South due to the processes described. These range from manufacturing smartphones in South-East Asia, with low wages and proven human rights abuses (as is the case of Foxconn's Longhua complex[13]) – the result of offshoring production processes in the digital economy – to increasingly automated logistics packaging centres that can be found in the major logistics centres of different territories. To this list, we must add the mighty armies of delivery people on bicycles or motorbikes, domestic workers or drivers in cities in the North; almost all of these jobs are undertaken racialized and/or feminized profiles via platforms. Other app-based jobs must also be included. They are less physical but are more geared towards software development, website maintenance, entering data on interfaces or any other task that could be outsourced via online work platforms (like Amazon Mechanical Turk or Upwork, to name a couple of examples). It would also be valid to discuss the exploitative conditions of those who have to carry out operations ranging from content moderation to training artificial intelligence models from peripheral countries. This means there are bodies behind the perception of immateriality associated with the digital economy. And these bodies are racialized and feminized bodies: in short, they are exploited bodies. This network of employment covers software design and programming, in most cases thanks to freelance workers in the south of Europe; industries with similarly precarious working conditions, such as call centres – in which women from the global South can be found working in poor conditions, which are only now beginning to improve thanks to pressure from trade unions – and even industries that were once deemed creative and prestigious, such as the media, consisting of packs of journalists churning out articles under the intolerable pressure of feeding the algorithm.

Far from disappearing, the existence of territories being divided into the core and the periphery is one of the main characteristics of this geopolitical scenario created by digital technologies. As we have seen, moreover, it is not only a question of a class divide but that there are other hierarchies – such as race, gender or ethnicity – which are not addressed in the hegemonic discourses on the virtual world.

Ultimately, moreover, some apparent logic should be highlighted: the so-called digital capitalism, or the hegemonic digital accumulation models, depend on a huge pool of available workers – a global reserve army of labour that carries the weight of much of the digital work on their shoulders.

13 B. Merchant. (18 June 2017). *Life and Death in Apple's Forbidden City. The Guardian.* Retrieved [FECHA], from: https://www.theguardian.com/technology/2017/jun/18/foxconn-life-death-forbidden-city-longhua-suicide-apple-iphone-brian-merchant-one-device-extract

4.2. Geography of the responses to digital colonialism: from regulation to technological sovereignty and beyond

This main section analyses the critical counter-hegemonic responses of the past two decades to current hegemonic frameworks. Although the list of initiatives is not exhaustive, it does try to be illustrative and well-ordered. Firstly, several civil society initiatives are presented in groups according to the rights they address. In the first set (sub-section 4.2.1), we include rights in the digital environment and digitally affected rights, while digital technology rights are grouped in a second set (sub-section 4.2.2). Lastly, we present general reflections and strategies related to the initiatives (sub-section 4.2.3). More than 220 cases are listed, which are located in the peripheries all over the world.

4.2.1. Rights in the digital environment and digitally affected rights: classic rights translated and transformed

The right to non-discrimination: from reporting race- and gender-based discrimination to justice through design

In many cases, digital technologies or the various systems built around them (such as automatic decision-making systems) have codified, increased and reinforced pre-existing discriminations. In this regard, the socio-technical changes that caused digitalization (especially the analysis of large volumes of data, the indexing of personal data or face recognition possibilities) have helped reproduce and broaden existing biases in society. In most cases, the civil society organizations that have emerged in this area have focused on making the structural nature of these discriminations the issue. Beyond the digital elements, such discrimination concealment or biases respond to and operate within our societies' sexist, racist, ableist frameworks.

In a bid to address this type of situation, collectives such as **Algorace**, located in Spain, aim to 'deracialize AI'. They start by diagnosing the way in which automatic decision systems and AI incorporate and magnify society's structural racism, reinforcing inequality, discrimination and intolerance: from face recognition and language processing to biomedicine and predictive policing. The use of these technologies often leads to human rights violations that are heightened in migratory and border contexts. To this end, Algorace uses communicative strategies and publications (e.g. developing storytelling, campaigns and events) to encourage debate around the impact of AI on racialized people and forges strategic partnerships led by racialized people that connect civil organizations and communities (with training activities), the public sector (via advocacy and collaboration) and the private sector (via recommendation and public pressure).

At the international level, there are many other projects that are currently working from a critical perspective on AI biases. For example, **Algorithmic Justice League**[14] or **Alliance A+**[15] in the United States . From the global South, research from Chennai Chair[16] is particularly interesting, as it provides a conceptual framework based on intersectional feminism for the critical study of AI. Other initiatives working in the same vein are **Afrofeminist Data Futures**[17] and the project **'Not my AI'**[18] by **Coding Rights**[19] and Paz Peña. Moreover, the **Feminist AI Research Network** (part of Alliance A+) has published the document *Hacia*

14 Discover more about this project: https://www.ajl.org/.
15 More information: https://aplusalliance.org/en.
16 C. Chair. (11 December 2020). *How Feminist Research Shapes AI, Privacy, and Data Protection Discourse. Genderit.org.*
17 I. Neema, C. Chenai, A. Garnett. (2021). *Afrofeminist Data Futures.* Pollicy.
18 The initiative's website: https://notmy.ai/es/.
19 Coding Right's website: https://www.codingrights.org/.

un marco feminista para el desarrollo de la IA: de los principios a la práctica (Towards a feminist framework for AI development: from principles to practice).[20]

Besides the fight against algorithm-based discrimination, there are other initiatives that focus on database configuration (and their associated biases) or which condemn gender-based discrimination in the technology sector. This is the case for collectives such as **Donestech** and **Digital Fems**, both located in Barcelona.

Donestech carries out action research activities and training on the relationships between women and new technologies, and has become a cyberfeminist benchmark, especially in the Latino world and activist environments. Among other subject matters, it has analysed the inclusion of women in the development and use of information and communications technologies (ICT) or the profile of women hackers in projects such as **Lelacoders**. As part of its training work, it has designed educational material, guides and toolkits on gender and new technologies.

Another initiative, Digital Fems, provides consultancy sessions to promote equality policies in technology environments in both the public and private sectors. It also has projects like **Gender Data Lab**, which promotes research applied to 'data science with gender perspective'. In 2020 it coordinated the project **Datos contra el ruido** (data against noise), aimed at highlighting men's violence against women by improving gender-based violence databases.[21]

Lastly, from a decidedly intersectional perspective (i.e. focusing on the overlapping of different matrices of control and discrimination such as those mentioned), **Design Justice Network** promotes design practices based on social justice. The project represents a 'normative and pragmatic proposal for a liberatory approach to the design of digital technologies, products, services and systems' and is guided by 'an ethical imperative to systematically advance democratic participation in all stages of the digital technology design process, and especially to centre historically marginalized communities in this process, based on principles of democratic inclusion and social justice'. Its pragmatic dimension is proven in the hope that this new design will produce products and systems that 'work better' (in addition to, or precisely for the sake of being fairer) to everyone 'in the long run'.[22]

Discrimination can also manifest itself through digital communication, a) through fake news and hate speech, which fuels the discrimination of vulnerable groups, or even the exercising of violence against them (a matter we will cover in the next section) or b) by rendering invisible certain groups' discourse. In the first sense, the **Center for Countering Digital Hate**[23] is committed to analysing the impact of these harmful practices and mobilizing public pressure on Big Tech to make them stop tolerating abusive behaviour on their platforms. In the second sense, the initiative **Point of View**,[24] located in India, amplifies the voices and visions of women in the digital public space.

20 J. Guerra. *Hacia un marco feminista para el desarrollo de IA: de los principios a la práctica. Derechos Digitales.*
21 Further reading about this issue: https://link.springer.com/chapter/10.1007/978-3-319-22994-2_8
22 More on Design Justice and Digital Technologies: https://wiki.p2pfoundation.net/Notes_on_Design_Justice_and_Digital_Technologies
23 More information about this initiative: https://counterhate.com/.
24 More information: https://pointofview.in/.

The right to life, liberty and security: from autonomous lethal weapons systems and digital violence to sousveillance systems and digital self-defence

Article three of the Universal Declaration of Human Rights (UDHR) states that every individual has the right to life, liberty and security of person. However, new technologies have facilitated and exacerbated, in some cases, or transformed, in others, the exercising of traditional violence. To this end, observing the changes associated with the emergence of smart technologies and autonomous lethal weapons is relevant. This includes drones employed in military contexts, special, or even, civil operations, given that law enforcement in many countries has used military drones for surveillance activities.

In the last decade within the military sphere, the concept of target killing has received a lot of attention in public debate, especially within the context of practices such as unmanned combat aerial vehicles by the United States, Israel and other countries. These drones and smart systems are included as part of the global surveillance infrastructure deployed following September 11. Civil society organizations have highlighted that the law enforcement's operating of surveillance mechanisms and drones represents a high risk for privacy, data protection and ethics, and have initiated campaigns against it.[25] Beyond such, John Begley has developed a project entitled **iPhone Metadata+** to help bring remote violence inflicted by military drones in Pakistan, Somalia or Afghanistan to light. Furthermore, **KnowDrones** is committed to informing the North American public of 'the illegality, illegitimacy and immorality of US drone strikes' via subvertising campaigns. Its objective is to reduce public support for the use of drones. Similarly, the artistic project **#NotABugSplat**, promoted in Pakistan, looks to build awareness against drone attacks.

Regarding the right to liberty, the advent of these technologies has also given rise to some less dystopian possibilities: human rights groups are considering using sousveillance equipment (i.e. monitoring from below by civil society, rather than from above [surveillance]) based on drones. For example, a prominent human rights defender recently suggested **using drones to combat slave labour and human trafficking**,[26] in the same way that this technology has been used to protect endangered rhinoceroses. In other cases, several activists have used drones to film protesters and pro-government forces in Bangkok and upload videos to YouTube in an attempt to draw attention to the police abuse and the protesters' motives. Drones have also been used for similar purposes in Türkiye, Estonia, Poland, Hong Kong and the United States.[27]

In any case, the overwhelming power of smart policing and military systems makes it difficult to offer technological solutions for the aforementioned human rights abuses. To this end, the communicative, legal and political advocacy of social movements and numerous organizations, such as **Amnesty International**, aimed at restricting the use of technologies like drones, seem to be one of the few routes (albeit clearly inadequate) to curb this new human rights threat.

Moreover, with regard to right to life and security, we also find citizen initiatives that put the technological capacity of communities at the service of humanitarian actions or civil protection. Such is the case of the **Internet Policy Observatory Pakistan**. Besides fighting for privacy and net neutrality in the country, it has developed an area of work, **Tactical Operations**,[28] through which it has managed to create emergency ITC networks to support humanitarian and social organizations in their work when facing emergency situations like the 2005 earthquake and the 2010 floods in Pakistan. The project's interventions include deploying portable satellite communications equipment and lifesaving supplies, vital internet and telephone support, as well as setting up iPOP technologies to provide free calls to people living in temporary camps and shelters with the aim of reconnecting displaced families.

25 For further reading: https://www.sciencedirect.com/science/article/abs/pii/S0267364916300887
26 More information: https://www.reuters.com/article/us-brazil-slavery-drones-idUSKCN0Q226F20150728
27 https://www.jstor.org/stable/24461704
28 Read more about the experience: https://ipop.org.pk/tactical-operations/

Civil society organizations also make use of digital technologies to encourage public policies and narratives that promote the right to life, liberty (e.g. sexual liberty) and security. An example of such is the **#MeToo** movement. The expression, used on MySpace in 2006 by the activist and sexual assault survivor, Tarana Burke, appeared for the first time in a digital report of her experience. The expression took on new impetus as a hashtag in 2017 following the debate surrounding the sexual abuse allegations made against Hollywood producer Harvey Weinstein.

As part of the wave caused by the movement, civil society in north Africa mobilized itself under the slogan 'name your abusers' to combat sexual harassment, collectivize experiences, promote safe spaces and, lastly, find other women in the same situation. In Tunisia, for example, following the case of a politician who sexually assaulted a teenager leaving school, the online #MeToo movement called **#EnaZeda** (meaning 'me too' in Tunisian Arabic) emerged. Thanks to this initiative, hundreds of women started reporting their aggressors. After posting proof of the assault online, the young woman received an avalanche of support from other women, who used a closed #EnaZeda Facebook group to bring this collective response to fruition.

A similar movement was created in the Middle East, in Lebanon, by **Fe-Male**. This collective works with women and girls to fight against injustice by establishing a young feminist movement, empowering change agents and launching campaigns against discriminatory regulations and policies. Moreover, The Bachchao Project, located in India, is among the Asian initiatives that monitor, analyse and condemn violence against women.

In addition to these hybrid efforts to promote the right to life, liberty and security, which combine being active both on and offline, other initiatives have also emerged, which specifically promote safety and protection against online violence.[29] Initiatives like Ciberseguras – a meeting point for various activist organizations (**Clandestina** in Brazil, **Ciberfeministas GT** in Guatemala, **Derechos Digitales** in Chile and Mexico, **Dominemos la tecnología** in Colombia, **Luchadoras** y **SocialTIC** in Mexico, and **Nodo Común** in Bolivia) – is committed to fighting against gender-based online violence and abuse, as well as constructing a feminist view of digital technologies. Furthermore, **Feminist Internet,**[30] from the Association for Progressive Communications addresses sextortion (sexual violence via digital media) or the harassment against women journalists. In this sense, it is worth highlighting the emerging panorama of feminist helplines for people dealing with digital sexism,[31] such as **Red Autodefensa Online** (the Online Self-Defence Network).[32]

For cases in which an aggression has already occurred, **DocuSAFE**[33] is a system aimed at helping survivors collect and share evidence of abuse securely with encryption. In this sense, **Fembloc**[34] should also be mentioned. Besides working against gender-based cyberviolence in Spain, it has also added a 'quick exit' button on its website so users can feel safer using its site, especially in situations of domestic or relationship violence.

For its part, the **Digital Defenders Partnership**, a project officially located in the Netherlands with global scope, aims 'to offer support to human rights defenders under digital threat', including activists, bloggers, civil society organizations, journalists and anyone else who uses information and communication (ITC) technologies to defend human and digital

29 A report on the situation concerning gender-based violence through electronic media, offering an overview of the context in Latin America and the Caribbean, published in 2017 (by a network including Coding Rights from Brazil, Hiperderecho from Peru, Fundación Karisma from Colombia, InternetLab from Brazil, IPANDETEC from Panama, Red en Defensa de los Derechos Digitales (R3D) from Mexico and TEDIC from Paraguay). The report can be found: https://www.alsur.lat/reporte/reporte-situacion-america-latina-sobre-violencia-genero-ejercida-por-medios-electronicos.

30 For more information: https://feministinternet.org/en/resource-type/case-studies.

31 For further reading: https://www.digitaldefenders.org/es/lineasdeatencion/.

32 More information: https://autodefensa.online/.

33 Further reading: https://www.techsafety.org/docusafe.

34 More information about this initiative: https://fembloc.cat/.

rights. Whereas **Protect Defenders**[35] represents a consortium of 12 organizations that offer direct support, including advice, training and funding for pro-human rights activists throughout the world who face threats both online and offline. Other initiatives include **Front Line Defenders**,[36] **Protection International**,[37] the **Asian Forum for Rights and Development**[38] and **Defend Defenders**[39]. Within the same area but with another work strategy, **CiviCERT**,[40] the Computer Incident Response Center for Civil Society, in collaboration with **Rarenet**[41] (Rapid Response Network), offer a **Digital First Aid Kit**[42] for organizations that defend human rights. Other initiatives have developed specific software solutions to guarantee that these sensitive operations are protected. These include **Primero**[43] and **Gender-Based Violence Information Management System**,[44] two open-source applications that allow social workers to manage child rights violations or gender-based violence cases; **OpenArchive**,[45] a software to protect human rights defenders in their work by sharing, archiving, checking and encrypting evidence regarding abuse or torture cases; **Hive Cloud Platform**,[46] used by activists to quickly detect cyberattacks and cybersecurity breaches and network against them; or cybersecurity practices such as file and communication encryption using **GPG** keys[47] or email services hosted on servers committed to activist security, such as **Riseup**,[48] all of which continue being fundamental when reducing risks.

Lastly, this type of activist work involves forensic analysis, carried out by citizens. This includes the mapping of disappeared persons, using technologies to follow and view said disappearances and even analysing biological samples and correlating them with missing persons. Projects worth mentioning in this area are **A dónde van los desaparecidos** (where the disappeared persons go),[49] **Desaparecer en pandemia**[50] (disappearing during the pandemic) and **Milynali,**[51] all of which are based in Mexico.

The right to privacy: from GDPR to anonymity technologies

Actors like the British NGO **Privacy International** have launched a range of projects, individually or in collaboration with other organizations, covering law initiatives (such as in 2012 to limit governments' ability – i.e. the British government – to collect metadata on the use of third-party websites and services from internet service providers) and recent advocacy campaigns against the invasive monitoring of migrants via GPS tagging.[52] Moreover, the **Electronic Frontier Foundation** has been a key actor in promoting legislative, advocacy, communication and awareness-raising initiatives since it was founded in the 1990s by John Perry Barlow, author of the classic *A Declaration of the Independence of the Cyberspace*, among others. The initiative also supports privacy-related technological development particularly but not only in the United States.

35 To find out more about this initiative: https://protectdefenders.eu.
36 Read more: https://www.frontlinedefenders.org/.
37 More information: https://www.protectioninternational.org/.
38 For more information: https://www.forum-asia.org/.
39 To find out more: https://defenddefenders.org/.
40 More information about this initiative: https://www.civicert.org/.
41 More details: https://doi.org/10.1080/02681102.2022.2068492.
42 For more information: https://digitalfirstaid.org/.
43 Learn about the project: https://www.primero.org/.
44 More information: https://www.gbvims.com/.
45 Discover more about this software: https://open-archive.org/.
46 More about this project: https://thehive-project.org/.
47 For further reading: https://es.wikipedia.org/wiki/GNU_Privacy_Guard.
48 For more information: https://riseup.net/.
49 Learn more: https://data.adondevanlosdesaparecidos.org/.
50 For further reading: https://desaparecerenpandemia.org/.
51 Discover more about this initiative: https://www.milynaliredcfc.org/.
52 For further reading on this matter: https://academic.oup.com/jhrp/article-abstract/9/1/104/2965689?redirectedFrom=PDF&login=false

Tactical Tech, an NGO that opened in Berlin in 2001 and which now has offices in several countries, has developed projects like **The Glass Room**, an adaptable, interactive exhibition that addresses various aspects surrounding datafication and privacy. For their part, tools such as **Data Detox** and **My Digital Shadow** help bring awareness of privacy threats and other rights to a wider audience, while suggesting strategies to reduce this exposure. In the global South there are also initiatives that have projects in this area, such as the aforementioned **Derechos Digitales**, **Coding Rights** and **Tedic**[53] in Latin America, **Internet Democracy**[54] in India and **SMEX**[55] in the Middle East.

Also in the area of awareness raising and resistance is **Panoptic Tracker**, an **Internet Freedom Foundation** project. This Indian organization aims to raise awareness about fundamental rights regarding technology use and works from a perspective that combines local critique with a transnational vision, therefore providing a Southern outlook on global problems. Panoptic Tracker is a collaborative map of all the sites where face recognition cameras have been spotted. Any user can report a camera, therefore helping the map grow, and in turn, improving privacy. Meanwhile, in the United States, **American Civil Liberties Union**[56] and the **Electronic Frontier Foundation**[57] develop different projects to curb the illegal, uncontrolled use of surveillance technologies (face and thermal recognition, wifi tracking or sound recordings). In Europe, there are several projects such as the coalition **Technopolice**,[58] led by **La Quadrature du Net**,[59] which observes, records, disputes and helps stop abuses related to surveillance technologies used by private institutions and companies.

Signal, one of the instant messaging services with the highest security and privacy standards, developed by the US-based non-profit organization, Signal Technology Foundation, is a sound alternative to WhatsApp (although a minority, it is a real social Achilles heel for many of these technologies). **Duck Duck Go** is a search engine that offers search, private browsing, tracker blocking features, as well as site encryption.

Furthermore, the project **Tor** (acronym of **The Onion Router**) offers a software aimed at creating 'a low-latency, distributed communications network and overlay over internet, in which the routing of messages exchanged between users does not reveal their identity, i.e. their IP address (network-level anonymity) and it allows to maintain the integrity and confidentiality of the information travelling over it'.60 The project's history is complex and includes several layers: it was initially developed by the US Naval Research Lab and later supported by the Electronic Frontier Foundation, which was set up as a non-profit organization in 2006.

53 The project's website: https://www.tedic.org/.
54 For further reading: https://internetdemocracy.in/.
55 For more details: https://smex.org/.
56 For further reading: https://www.aclu.org/issues/privacy-technology.
57 Visit the website: https://www.eff.org/.
58 Discover more about this initiative: https://technopolice.fr/.
59 More information: https://www.laquadrature.net/.
60 More information about how Tor works: https://es.wikipedia.org/wiki/Tor_(red_de_anonimato)

The right to freedom of speech, opinion and information: from Indymedia and Wikileaks to fact-checking

During the first two decades of the 21st century, **Indymedia** and **Wikileaks** were probably the two most paradigmatic projects that defend and exercise freedom of expression and information from an activist point of view. The Global Network of Independent Media Centres (**Indymedia**) is 'a collective of independent media organizations and hundreds of journalists offering grassroots, non-corporate coverage'[61] and follows open, democratic publishing practices. This network has grown to more than 150 independent media centres throughout the world, each of which with its own mission and control of its finances and decision making. The network launched in 1999 in Seattle during the protests against the World Trade Organization, one of the founding events of the alter-globalization movement, and was most active during its height between 1999 and the beginning of the 21st century. In its own way, Indymedia represented a significant moment in the shift from the static information-centred website model of the 1990s to the social webs of the 2000s.

Wikileaks was founded when Indymedia was starting to decline. The project defines itself as 'a multi-national media organization and associated library'. Founded by its publisher Julian Assange in 2006, it 'specializes in the analysis and publication of large datasets of censored or otherwise restricted official materials involving war, spying and corruption'. It has published more than 10 million documents and analyses and has contracts and secure communication paths with more than 100 media organizations throughout the world. However, the police repression against the alter-globalization movement, including Indymedia, and the United States legal action against Julian Assange show the risks associated with guaranteeing and exercising this right in a world that, as Wikileaks' leaks have proven, is defined by the interests of different states (and agencies and actors within them) and corporations unconcerned by human rights.

Another less risky way of mobilizing civil society in defence of the right to freedom of information has been to initiate campaigns for access to public administration data. An example of this is the Open Data Initiative,[62] a non-profit organization co-founded by Tim Berners-Lee (the inventor of the world wide web), which aims 'to work with companies and governments to build an open, trustworthy data ecosystem'. Initiatives like **Transparency International** are committed to making public institutions release their data, calling for more transparency in management and preventing and reporting corruption.

In many cases, these civil society projects have made progress in promoting transparency in the public sector or exposing crimes. In the same vein, the **Information and Communications Technologies 4 Democracy (ICT4D)** network was formed in 2012 in East Africa to support political initiatives in Kenya, Tanzania and Uganda that called for more transparency and accessibility to governments' information. The organizations within the network[63] empower local communities in these three countries by making citizens aware of their rights, especially concerning information access and political participation.

In China, activist groups avoided censure and managed to release information about the COVID-19 pandemic, documenting reports via the software repository GitHub.[64]

Worthy of special mention is the platform **Ushahidi** (which means 'testimony' in Swahili), a customizable, multi-platform software that allows communities to mobilize their users in large-scale political information actions. The platform can create quick crowdsourced maps (called 'activist mapping') on current issues through the collection, management and analy-

61 More details: https://web.archive.org/web/20160315024250/https://docs.indymedia.org/Global/FrequentlyAskedQuestionEn#what

62 More information: https://theodi.org/.

63 ICT4D network organizations: https://ict4democracy.org/about-ict4d/partnerproject-briefs/

64 Further reading about this case: https://data-activism.net/2020/05/bigdatasur-covid-in-memory-of-covid-19-in-china-various-forms-of-digital-resistance-towards-censorship/.

sis of information. This tool was created in Kenya in the final stages of the 2007 presidential election, during which activists collected testimonies of partisan violence via email and text messages and located them on geolocalized digital maps. This tool has later been used for many political processes in countries like Nigeria, Mexico, India and Kenya to ensure compliance with the law. It was also used to document and report police brutality in countries like the United States during the **Black Lives Matter** movement protests. Moreover, Ushahidi has proven useful in times of uncontrolled social emergency after earthquakes in such different places like Haiti and Nepal, or to help women report sexual harassment in Egypt.

Promoting freedom of information and expression is often facilitated by the connection between transparency initiatives or mapping with investigative journalism. In this regard, citizen media outlets like **Agência Pública** in Brazil, **Plaza Pública** in Guatemala and **Ciper** in Chile – all are structured around non-profit organizations and underpinned by digital media – exercise and contribute to the freedom of the press in their countries at a time when communication and public debate are defined by corporate conglomerates, digital platforms or the (sometimes conflicting) combination of both.

Another strategy followed by some civil society organizations has been to call for and propose public ways to regulate these platforms and conglomerates. In the same vein, in 2017 **Observacom**, **Intervozes**, the **Instituto Brasileiro de Defensa do Consumidor** (the Brazilian Consumer Defence Institute) and **Desarrollo Digital** drafted a document entitled *Aportes para una regulación democrática de las grandes plataformas que garantice la libertad de expresión en Internet: una perspectiva latinoamericana para lograr procesos de moderación de contenidos compatibles con los estándares internacionales de derechos humanos* (Contributions for a democratic regulation of large platforms that guarantees freedom of expression on the internet: a Latin American perspective to achieve content moderation processes compatible with international human rights standards).[65]

Conversely, state censorship practices are frequent. As such, projects that monitor internet censorship by governments across the world are proliferating, such as **Netobservatory**[66] in Belarus or **Kill Switch Timeline**[67] in Pakistan. With a more global approach, Digital Defenders published a guide on how to keep communicating when the internet is blocked, ***Guía para seguir comunicándonos ante bloqueos de internet***,[68] and **Access Now**[69] launched campaigns to condemn and raise awareness about censorship situations and other digital rights violations. Similarly, worthy of mention are initiatives that are critical of content filtering systems used on digital platforms from a human rights defence perspective. Mnemonic[70] is one such project that documents proof of human rights violations on commercial platforms before the content is removed by moderation systems.

Fact-checking initiatives have emerged across the world as a response to the reports of a growing presence of false information on the internet, particularly on social media and corporate messaging services (Facebook, Twitter, WhatsApp, etc.), as well as its association with polarization processes in political and social life. This is the case of **Chequeado**, in Argentina, which defines itself as 'a non-partisan non-profit digital media that is committed to fact-checking public discourse, fighting misinformation, promoting access to information and opening data'. It has also trained teams in other countries, such as the members of **Ecuador Chequea**. Within the **International Fact-Checking Network**[71] are, besides corporate media, some civil society-driven media, such as **Colombiacheck**.

65 See the report (in Spanish): https://comunidades.cepal.org/elac/sites/elac/files/2019-09/Libertad%20de%20Expresi%C3%B3n%20y%20Grandes%20Plataformas%20de%20Internet%20-%20Aportes%20para%20una%20regulaci%C3%B3n%20democr%C3%A1tica_0.pdf

66 For further reading: https://netobservatory.by/.

67 Visit the website: https://killswitch.pk/.

68 T. Avendaño and J. Nájera. (2022). *Guía para seguir comunicándonos ante bloques de internet.* Digital Defenders.

69 More details: https://www.accessnow.org/.

70 More information about this initiative: https://mnemonic.org/.

71 More information: https://es.wikipedia.org/wiki/International_Fact-Checking_Network

Other initiatives more directly linked with social movements have also emerged. For example, during the 2019 protests in Chile against president Sebastián Piñera and his government, different actors used data activism to combat disinformation surrounding what was happening.[72]

The right to association and political participation: from the Arab Spring, the 15M movement and Occupy to Loomio and Decidim

During the first two decades of the 21st century, civil society has explored the possibilities and limitations of self-organization. Several hacktivist movements launched between the 2000s and the 2010s combating different national regulations on sharing content on the internet. These regulations were known as SOPA, PIPA and ACTA[73] in the United States and were promoted by the US's entertainment and cultural industry lobby with help from the American administration. These efforts coincided in many countries with social movements emerging in the wake of the 2008 financial crisis and its political and social consequences. They were the first movements that used social media to mobilize people on a national and international scale.

With similar or remote backgrounds and consequences, in around 2010, a wealth of disturbances and movements took place: for example, the 'Arab revolts' in **Iran**[74] in 2009 and **Western Sahara**,[75] **Tunisia**,[76] **Egypt**,[77] **Lybia**, **Yemen**, **Syria** and **Bahrain**[78] between 2010 and 2011, the **Geraçao a Rasca** (Anti-austerity movement), **Movimento 12 Março** (12 March Movement) in Portugal[79] and **15M** anti-austerity movement in Spain[80], the social protests in **Greece**[81] and **Israel**,[82] **Occupy Wall Street**[83] in the USA (with its sister movements across the world, from **Occupy Nigeria**[84] in sub-Saharan Africa to **Occupy Gezi**[85] in Türkiye), the movement **Lutte pour le changement (LUCHA)**[86] in the Democratic Republic of Congo, **#Yosoy132**[87] in Mexico, **La Repartija**[88] in Peru, **Passe Livre**[89] in Brazil and Hong Kong's **Umbrella Movement**[90] between 2011 and 2013. All of these experiences were proof of what was called 'the power of the connected masses',[91] the possibilities and limitations of connective action (no longer collective)[92] in a hybrid media system93 that connected networks and streets.[94] Even in Russia,[95] between 2011 and 2013, the election results were questioned with **street protests that sprang from RuNet's blogosphere**, the internet in

72 Further reading: https://data-activism.net/2020/01/how-chilean-activists-used-self-gathered-data-to-fight-disinformation/
73 M. Carrier. (2013). *SOPA, PIPA, ACTA, TPP: An Alphabet Soup of Innovation-Stifling Copyright Legislation and Agreements,* 11 Nw. J. Tech. & Intell. Prop. 21. For further reading: https://scholarlycommons.law.northwestern.edu/njtip/vol11/iss2/1
74 For further reading: https://es.m.wikipedia.org/wiki/Protestas_electorales_en_Ir%C3%A1n_de_2009.
75 More information: https://es.wikipedia.org/wiki/Protestas_en_el_Sahara_Occidental_de_2010-2011.
76 Learn more: https://es.wikipedia.org/wiki/Revoluci%C3%B3n_tunecina.
77 More details: https://es.wikipedia.org/wiki/Revoluci%C3%B3n_egipcia_de_2011.
78 Read a summary: https://es.wikipedia.org/wiki/Primavera_Arabe_(2010-2012).
79 More details: https://pt.wikipedia.org/wiki/Gera%C3%A7%C3%A3o_%C3%A0_Rasca.
80 Learn more: https://es.wikipedia.org/wiki/Movimiento_15-M.
81 For further reading: https://es.wikipedia.org/wiki/Protestas_en_Grecia_de_2010-2012.
82 Read: https://en.wikipedia.org/wiki/2011_Israeli_social_justice_protests.
83 More information: https://es.wikipedia.org/wiki/Occupy_Wall_Street.
84 For more details: https://es.wikipedia.org/wiki/Occupy_Nigeria.
85 For further reading: https://es.wikipedia.org/wiki/Protestas_en_Turqu%C3%ADa_de_2013.
86 More information: https://en.wikipedia.org/wiki/Lutte_pour_le_changement.
87 For more information: https://es.wikipedia.org/wiki/Yo_Soy_132.
88 B. Jiménez. (22 July 2013). *Brota en Perú la primera semilla de indignación. El Mundo.*
89 Learn more: https://en.wikipedia.org/wiki/Movimento_Passe_Livre.
90 More details: https://es.wikipedia.org/wiki/T%C3%A1cticas_y_m%C3%A9todos_en_torno_a_las_protestas_de_Hong_Kong_de_2019-2020.
91 Text in Spanish: https://www.editorialuoc.com/tecnopolitica-y-15m-la-potencia-de-las-multitudes-conectadas
92 Read more about the connective action concept: https://www.tandfonline.com/doi/abs/10.1080/1369118X.2012.670661?journalCode=rics20
93 More information about the hybrid media system: https://academic.oup.com/book/8696
94 For more information about the relationship between social media and social movements: https://www.jstor.org/stable/j.ctt183pdzs
95 For further reading: https://en.wikipedia.org/wiki/2011%E2%80%932013_Russian_protests.

Russian.[96] Ten years later, in 2022, Ukrainian society used commercial social media **to oppose the Russian army's invasion.**

At the end of the noughties, the decentralized hacktivist collective **Anonymous** put its right to association to unusual use using different strategies, including mass denial-of-service attacks, hacking and cracking both government and corporate websites and databases. Its influences – a combination of historical and fictional references, encapsulated in its use of masks of the British conspirator, Guy Fawkes – as well as its distributed, organizational nature and focus on anonymity, have made this an iconic early 21st-century collective.

In some places, the waves of democracy at the beginning of the decade left their mark. In Africa, this inspired **AfricTivistes**, an alliance that was formed in 2014 with a platform that helps build links between local communities and organize action programmes in a wealth of areas linked to democratic participation, open government or political activism, among many other subjects.[97]

In Spain's case, the 15 M anti-austerity movement opened a political window that led to the creation of parties like **Podemos** and several municipal-level initiatives. In cities like Madrid and, especially, Barcelona, they have developed movement-inspired democratized policies (**Decidim**) and participatory democracy platforms (**Consul)** which, today, are technopolitical benchmarks across the world. **Decidim** is a free software for building participatory democracy digital platforms. More than a million people and 450 organizations use it globally, starting with the community that fuels the project, Metadecidim, comprising actors that range from public institutions and cooperatives to citizens and activists. The software operates as a matrix with different elements (from proposal and debate drafting to votes and vote monitoring) that the administrator can easily configure. This means that any type of space and participation or self-organization process's digital flows can be structured, from citizen initiatives to referendums or participatory budgets to citizen assemblies.

By way of background, another digital platform for hacktivist-rooted politics was **Liquid Feedback**. An open-source software launched in 2009, which builds webs to create proposals and make decisions. One of its key innovations was its idea of liquid democracy, i.e. being able to delegate decision making on any issue taking into account factors like knowledge of the subject matter but also ensuring that such delegation can be recalled and direct voting opted for at any time. One of the first organizations to use it was the **Pirate Party Germany** in 2009, albeit for a limited time.[98]

With less of an institutional approach, the Occupy movement in New Zealand created **Loomio**, a software and digital service that helps any group develop collaborative, consensus-oriented decision-making processes. The people participating can make proposals, and the software displays the feedback in different formats. Loomio evolved from being a prototype used in Occupy in 2012 to being the basis for a social cooperative, inspired by the 'platform cooperativism' model.

96 M. Lonkila, L. Shpakovskaya and P. Torchinsky. (2020). The Occupation of Runet? : The Tightening State Regulation of the Russian-Language Section of the Internet. In M. Wijermars and K. Lehtisaari (Eds.), Freedom of Expression in Russia's New Mediasphere (17–38). Routledge.

97 Further reading from an academic perspective: https://journals.sagepub.com/doi/abs/10.1177/0002764220975060

98 In this regard, read: https://www.tesisenred.net/handle/10803/674091

The right to dignified work: from changes in trade unionism to desirable automation

The right to freedom of peaceful assembly and freedom of association at all levels, especially in political, trade union and civil domains, includes reference to the right of every person to found trade unions with other people and join them to defend their interests.

The digital economy is transforming 20th-century work conditions and notions, thereby modifying or rendering traditional industrial categories and dynamics obsolete. Several platform companies have taken advantage of regulatory gaps to attack employment rights and therefore increase their profits: from hyper-surveillance to hyper-productivity demands, and from anti-union strategies to precarious contracts and gruelling working hours, all of which with the threat of dismissal and replacement of another human or technology. From financialized, financially loss-making companies, such as Uber (which came to the fore after the publication of *Uber files*[99]) to the transnational and on-demand exploitation of Amazon Mechanical Turk.[100] These corporations outline the new 21st-century work profiles: precariousness, exploitation, exhaustion, surveillance, global competition and a long list of situations that seem like a steampunk or retrofuturist revival of 19th-century working conditions.

In response, trade unions and platform workers have started to mobilize themselves internationally. Traditional trade unions have condemned these exploitative conditions and have raised their voices about certain forms of collective representation shaped by platform economy logic. In addition to the traditional transversal trade unions, at least two types of platform worker unions are emerging. The first type is worker-led, which follows (albeit loosely) the traditional logic of trade unionism: solidarity, mutual support and worker-company opposition, etc. Secondly, trade unions that tend to mediate and be in line with the company's interests (sometimes with their direct or indirect support) are also appearing.

In any case, alliances between workers – based on the old or new breed of unions – are starting to crystallize. During the first nine months of the fiscal year of 2021 (which is October to October in the United States), the National Labor Relations Board reported an increase in union election petitions of 58%, from 1,197 to 1,892. Workers from an Amazon warehouse on Staten Island, New York, created the company's first trade union in the USA in April 2022. Following the victory, other unionization campaigns were made public in North Carolina, Kentucky and the north of New York State.[101]

Traditional strategies, such as strikes, are preserved and reformulated to adapt to current times. A significant example is the general strike staged by Deliveroo workers in London in the summer of 2016.102 Said protest was sparked by the drop in hourly wages by almost half (from £7 to £3.75). This strike spread to UberEats workers and then on to the rest of the United Kingdom (Bath, Middlesbrough, Liverpool, Portsmouth, Manchester and Glasgow). A year later, workers from food delivery platforms from more than ten European countries – such as Italy, France, Spain and Germany –had also joined the action.

On the other hand, on 15 July 2017, Milan's Deliveroo workers disputed the wage reductions and their legal situation as self-employed workers,[103] which they called the first **Deliverance Strike Mass**. They successfully bargained a pay increase from €1.10 to €3.60 because, as Professor Marco Briziarelli reported, the strike was organized innovatively: they took advantage of the platform's hybrid nature.[104] The workers signed in, and then, when they were assigned delivery orders, they refused to deliver them, therefore breaking the commercial

99 Kenney et al., 2019. Read a related news article (in Spanish): https://elpais.com/economia/2022-07-11/somos-esclavos-de-uber-el-coste-para-los-conductores-de-un-modelo-de-negocio-imposible.html

100 Further reading about Amazon's impact on different industrial sectors across the world: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3497974

101 For other cases unrelated to the technology industry (in Spanish): https://www.eldiario.es/internacional/theguardian/boom-sindicatos-eeuu-pese-resistencia-grandes-companias_1_9208829.html

102 For a recent analysis of the British case: https://brill.com/view/journals/jlso/25/2/article-p220_003.xml

103 https://www.linkiesta.it/2017/07/alza-la-bicicletta-al-cielo-i-fattorini-di-deliveroo-scioperano-a-mila/

104 An interesting study on the matter: https://www.tandfonline.com/doi/abs/10.1080/09502386.2018.1519583

circuit that takes place between the digital and physical realms, where a one-click order transpires into a physical delivery.

Significant progress has been made concerning the right to work, the free choice of work, fair (equal pay for equal work, among others) and satisfactory working conditions that ensure that individuals and their families can live dignified lives. For example, the Danish start-up Hilfr's case is exemplary. A cleaning services platform, **Hilfr** was the first example of collective bargaining by signing an agreement with the Danish trade union 3F in 2018, which included minimum wage standards at €19 per hour, social security contributions, paid holidays and access to sickness benefits for Super Hilfrs, i.e. those who have been with the app for a given amount of time (100 hours).

There are outstanding initiatives in the rest of the world, such as **FemLab.co**. It specifically promotes dignified work for women involved in online production chains, although they do still rely on partnerships with global North institutions to position themselves as actors able to intervene in Southern countries (in this case, South Asia). Even in places known for their poor working conditions, such as the Foxconn factory in Zhengzhou, the labour struggle often achieves results.105 In Hong Kong, initiatives like the China Labour Bulletin have launched digital maps that collect and geolocalize incidents such as strikes or work-related accidents throughout the country.

Ultimately, it is worth highlighting the appearance and growing relevance of **SI-Cobas**, a self-organized Italian trade union that substantially supported the Deliveroo deliverers' cause. Si-Cobas was founded in 2015 to strategically organize itself to address the atypical working relationships associated with most logistics-related jobs. Alongside other food delivery workers from Foodora and Glovo, Deliveroo deliverers managed to take their problems to a national debate and draft a charter called ***Carta dei Valori*** (charter of values), which recommends more favourable contract conditions, replacing by-the-job pay with an hourly wage and removing algorithmic management.[106] In this sense, the **Indian Federation of App-based Transport Workers**[107] is a stellar example. Since 2019, it has united platform workers like Ola, Uber, Swiggy, Zomato, Rapido and Dunzo and defended their working rights.

Beyond the resistance and struggle within the company or the creation of new trade unions, another core strategy explored in recent years was to found cooperative companies based on the principles of solidarity and the dignity of labour, fair wages and even ecological sustainability. This is the case of the federation of bike delivery cooperatives, **Coopcycle**, which has more than 66 organizations (57 in Europe, seven in Mexico and two in South America), which provide their services via an app designed by the federation itself.

With regard to other – increasingly digitalized – contemporary work tools, the use of free technologies is moving towards technological autonomy and digital commons against the exclusive nature of the office's traditional hegemon (Microsoft) or the dependence on Google services (especially through Google Workspace). To this end, tools like **LibreOffice** (developed in 2011 by the Berlin-based non-profit organization The Document Foundation) are a sound alternative to Microsoft for creating and using text files, spreadsheet documents or presentations (although its features are not identical), especially when the US giant is increasingly dependent on subscriptions, cloud-based services, datafication and user profiling. Emerging initiatives like **Framasoft**[108], **Maadix** and **CommonsCloud** offer various cloud-based services (including email, collaborative tools, secure browsing and file storage and synchronization) that can cover many of the services offered by Google Workspace.

105 For further reading: https://www.bbc.com/news/world-asia-china-63725812 and https://www.businessinsider.com/foxconn-raising-pay-to-lure-back-workers-fleeing-covid-measures-20 22-11.
106 Discover more about this issue: https://www.tandfonline.com/doi/abs/10.1080/09502386.2018.1519583
107 Further reading about this trade union movement: https://en.wikipedia.org/wiki/Indian_Federation_of_App-based_Transport_Workers
108 Read more about Framasoft, whose website includes an exhaustive list of free tools: https://framasoft.org/en/full/

The right to an adequate standard of living: the right to housing – from Airbnb to Fairbnb

The right to housing is contained within most constitutions throughout the world. However, in many large metropolises, especially tourist cities, platforms like Airbnb and Booking.com have radically transformed the right to housing. This context explains the rise of platforms like **Fairbnb**, which offers temporary rental services and reinvests 50% of the service fees in the community, promotes a 'one-house-per-host' rule to avoid large holders and adheres to local regulations, and is also open to inviting users to join the cooperative itself.

This digitalization is transversal to the fight for the right to housing. In the 2010s, different initiatives working for the right to housing (from the **Plataforma de Afectados por la Hipoteca** [platform for people affected by mortgages] to Occupy Homes, to name some of the most noteworthy), used digital technologies (whether corporate or their own) to organize and amplify their causes. Today, initiatives like the **Anti-Eviction Mapping Project**[109] document dispossession and resistance in gentrified landscapes, using digital tools, maps and programs, multimedia storytelling, reports and community events. Meanwhile, collectives that are fighting for the right to housing in Spain (like the **Sindicat de Llogateres** [Tenants' Union]), the United Kingdom and Canada (**ACORN Tenants Union**) and the United States (**Radical Housing Journal**) intensively use social media in their campaigns and are experimenting with platforms or web portals. These initiatives use technologies as a lever to provide more information about landlords and landladies, mobilize below-market-price rental properties or simply open up the option of including and promoting social housing in their attempt to find a way for civil society initiatives and public housing development to coexist.

The right to education: from Google to its alternatives

Although education was already gradually becoming digitalized at the turn of the century, it was not until the COVID-19 pandemic that an accelerated, traumatic digitalization process occurred at all levels, from infants to university stages. This digitalization was, in general terms, a full-scale platformization process in which Big Tech – the paradigms being Google and Microsoft – put in place the infrastructures for remote learning for millions of people all over the world. This went hand in hand with contracts and high profits, as well as their penetration in a sector key to shaping knowledge acquisition and personal development, now exposed to mass data mining and information typical of surveillance capitalism.[110]

In this sense, we must highlight the initiative by the entity that defends digital rights, **Xnet**, which created an open-source, public, auditable online educational platform to become an alternative to the tools that the main tech giants offer.[111] The platform includes digital tools to create virtual learning environments, edit and share files or make video calls.

Moreover, platforms like **Moodle**, **Big Blue Button** and **Jitsi** are free software alternatives to Blackboard, Canvas and Zoom. Moodle is a free learning management tool. It covers both online and blended learning, and teachers can create remote learning communities. It is used by more than 240 million people in countries across the globe. Big Blue Button is also a virtual education software. Jitsi is an open-source video conference program, instant messenger and Voice over Internet Protocol (VoIP). Unlike Zoom, it can be installed on users' own servers and can be modified according to each user's needs.

109 For more information: https://antievictionmap.com/.
110 https://theconversation.com/tax-pandemic-profiteering-by-tech-companies-to-help-fund-public-education-155705
111 https://ajuntament.barcelona.cat/premsa/2022/02/08/lajuntament-de-barcelona-i-xnet-presenten-el-primer-prototip-de-plataforma-educativa-de-codi-obert-i-auditable/

One of the current challenges is to guarantee the right to education (a surveillance-free education not dependent on economic interests), while another is to guarantee digital training and literacy that ensure said right and many others. Many of the projects mentioned in this report include digital literacy, training and empowerment courses, such as **Social TIC** or **the collective Sursiendo**, both in Mexico. These activities are pivotal to many initiatives.

The right to cultural, artistic and scientific life: from copyleft, Creative Commons licences and fighting for free culture to Wikipedia and Science-Hub

Civil society's efforts to guarantee the right to culture in the information era – including the appearance of **Copyleft** licences or platforms like **Science-Hub** – is a tale of bitter conflict. In the 1980s, Richard Stallmen developed the free operating system GNU as an alternative to UNIX, and when applying a licence for its creation, he coined the concept of **copyleft** legally and terminologically. At the beginning of the new millennium, in 2001, Lawrence Lessig and Eric Eldred designed the **Creative Commons** licence, which would definitively open up the concept of General Public Licenses (GPL) to cultural works. It also founded the non-profit organization **Creative Commons**[112] to promote licences of the same name. In contrast to copyright's 'all rights reserved' concept, with the creative commons licence, some or no rights can be reserved (i.e. copying may be permitted as long as the source is attributed, whereas others prevent commercial use or allow remixing, etc.).

Two key events took place at around the same time at the turn of the century. Both illustrated the logic of construction and conflict, which are the core of any transformational endeavour. The first was the creation of **Wikipedia** in 2001. At around the same time, Napster and peer-to-peer (P2P) programs made it easier to share copyrighted digital works. In 2011, Alexandra Ekbayan, a Kazakhstani software developer, created **Science-Hub**, the largest free-access academic article repository in the world. Other repositories, like **Libgen**, have specialized in academic and artistic books, while **Internet Archive** (currently under a legal threat) covers all types of digitalized works. An interrelated line of action is the digitalization and publication of documents online. The project **Bibliohack Argentino** is a good example of such. It is an independent project that developed scanners and collaborations with libraries, archives and museums, promoting the creation of a collaboration network to preserve cultural heritage. In the same vein, **Memory of The World**[113] is a documentary catalogue that was created in Serbia and Croatia in collaboration with groups from across the globe.

Initiatives like those mentioned are an essential knowledge source for millions of people globally and key to helping maintain the ideal of free knowledge, culture and science. Paradoxically, under the current hegemonic economic model, many initiatives are forced to work in a somewhat digital underworld. To try and change this framework, albeit partially, organizations like **Open Knowledge Foundation** have devoted their efforts to working for a world in which 'all non-personal information is open, free for everyone to use, build on and share; and creators and innovators are fairly recognised and rewarded,' as it explains in its own words. A growing number of repositories and publishing houses are adopting a 'free access' policy with some of their publications. To name an example, the **Open Educational Resources Commons**[114] is a public digital library that specializes in the education sector.

112 Further reading on Creative Commons and CC licences: https://creativecommons.org/about/
113 Read more: https://www.memoryoftheworld.org/.
114 For more details: https://www.oercommons.org/.

The right to a healthy environment: from Fridays for Future to Extinction Rebellion and from Fairphone to permacomputing

Environmental activists are the human rights defenders who have been most killed across the world in the last 10 years (1700 have been recorded)[115]. Global Witness[116] is one of the organizations that, besides controlling such calculations, offers protection for victims and their communities, including against digital attacks. It aims to support local efforts made internationally to defend territorial biodiversity and against environmental destruction. To do so, it makes use of social media and other digital technologies. For example, by using satellites, the organization has been able to map the polluted sites caused by China's rare-earth mining in the Myanmar mountains.[117] Another important experience in this sense is **Todos los ojos en la Amazonía**[118] (meaning all eyes on the Amazon in Spanish), a coalition of organizations specialized in using technology to demand human and indigenous people's rights and preserve biodiversity.

Two movements that had the greatest impact just before the COVID-19 pandemic are related to this fundamental right to a healthy environment. Firstly, **Fridays for Future**[119] has mobilized young people internationally through creative social media use, combined with face-to-face demonstrations and institutional advocacy. Greta Thunberg initiated the movement by striking in front of her school in protest against the political inaction on climate change, which was shared on social media. Secondly, **Extinction Rebellion** is a movement spanning a more diverse age range, which has relied on direct action to raise awareness about the climate and ecological catastrophe looming over planet Earth.

Somewhere between civil society and the private sector, in the last two decades, different initiatives have emerged that develop and supply digital technology that promote sustainability. An example of this approach in the area of mobility is **Som Mobilitat**.[120] It is a cooperative shared mobility and electric car rental initiative that relies on renewable energy sources. Another example is **Fairphone**, a smartphone that tries to minimize its ecological footprint and maximize the mobile industry's social impact. To this end, a minimum amount of minerals from conflict areas are used in manufacturing, guaranteeing fair working conditions for both the people who work in the company and its suppliers while ensuring mobile repair for the end user. The organization behind the project is a company that was founded in 2013 in Amsterdam with support from **Waag Society**, a critical tech and society laboratory located in the same city. Another similar project is **Ecosia**, a browser launched in 2009 in Germany, which invests most of its profits in planting trees throughout the world, although its business model is based on targeted advertising, a characteristic of surveillance capitalism.

Lastly, with a decidedly degrowthist approach, postures like **permacomputing**,[121] embody a sustainable approach to computing, inspired by permaculture. An example of such is **Collapse OS**, an operating system and collection of tools aimed to 'preserve the ability to program microcontrollers through civilizational collapse', according to its own definition. This operating system is designed to operate with minimal and improvised machines and interfaces, among other things.

115 Global Witness. (29 September 2022). *A Deadly Decade for Land and Environmental Activists – with a Killing Every Two Days*. Global Witness.
116 Discover more about this project: https://www.globalwitness.org/.
117 Global Witness. (09 August 2022). *Myanmar's Poisoned Mountains. The Toxic Rare Earth Mining Industry at the Heart of the Global Green Energy Transition.* Global Witness.
118 More details about the project: https://todoslosojosenlaamazonia.org/.
119 Discover the movement's strikes and actions across the world: https://fridaysforfuture.org/action-map/map/
120 More information about this initiative: https://www.sommobilitat.coop/.
121 For more information about permacomputing: https://wiki.eotl.supply/permacomputing

4.2.2. Digital human rights: a family of emerging rights and struggles

This section focuses on the conditions and characteristics that should define the relationships between human beings and the technologies that characterize the digital world. The United Nations (UN) is yet to include this package of emerging rights in any of its main documents, maybe due to their newness and ever-changing nature. It does, however, have a digital rights roadmap.[122]

The right to net neutrality: the fight for free, open, neutral internet

The principle of network neutrality (concept coined in 2003 by Tim Wu,[123] and later popularized as net neutrality) is that 'Internet service providers (ISPs) must treat all Internet communications equally, offering users and online content providers consistent rates irrespective of content, website, platform, application, type of equipment, source address, a destination address, or method of communication'. When this principle is applied, ISPs are unable to 'intentionally block, slow down or charge money for specific websites and online content'.

This principle has been the subject of disputes between civil society and corporations since the 1990s, which reached a pivotal moment between 2017 and 2020 when the Trump Administration and the Federal Communications Commission reverted this principle. This turnaround had been in the pipeline before, and between 2013 and 2016, successive campaigns[124] were launched across the world, including **SafeTheNet**[125] led by collectives like **La Quadrature du Net** alongside others like **Xnet**, **AccessNow**, **Digitale Gesellschaft**, **European Digital Rights (EDRi)**, **Initiative für Netzfreiheit**, **IT-POL**, **Nurpa** and **Open Rights Group**. In the United States, the Biden Administration foresees that it will revert some of the measures established by Trump.

The right to digital connectivity: from regulation to the fight for autonomous infrastructures

Several international studies warn of the digital divide, i.e. the gap between those with Internet access and those without. Only 60% of the global population has access to the internet, but the vast majority are in developed countries.[126] The digital divide takes on different dimensions, for example, the digital access divide (i.e. being able to browse online with a quality service), the digital use divide (i.e. effective browsing time) or the use type divide (i.e. exercising empowered uses that could transform people's lives on a personal and collective level). Furthermore, the limits of this right, like many others stated in this report, are marked by discriminations linked to gender, race or socioeconomic status.

According to the International Telecommunications Union (ITU), the gender digital divide is widening in the Middle East and North Africa: just 44.2% of women use the internet compared to 58.5% of men. In 2019, the gender divide gap was estimated to be 24.4% compared with 19.2% in 2013.[127]

122 Find more information about the UN's strategy: https://www.un.org/techenvoy/content/digital-human-rights

123 T. Wu. (2003). *Network Neutrality, Broadband Discrimination. Journal of Telecommunications and High Technology Law, 2, 141–80.* https://scholarship.law.columbia.edu/faculty_scholarship/1281/

124 Read more about these campaigns: https://savetheInternet.eu/

125 Read more about these campaigns: https://savetheinternet.eu/.

126 Available reports include: https://unctad.org/system/files/official-document/der2019_en.pdf

127 Claiming and Reclaiming the Digital World as a Public Space Experiences and insights from feminists in the Middle East and North Africa https://oxfamilibrary.openrepository.com/handle/10546/621103

Part of civil society activism efforts around the right to connectivity focuses on getting states involved in creating infrastructures or regulating telephone and internet service providers' activity. In Africa, Ugandan-based **CIPESA** (Collaboration on International ICT Policy for East and Southern Africa) defends the right to internet access on the African continent. For this organization, establishing effective, fast internet access is pivotal to reducing poverty in Africa. CIPESA networks with other organizations like **Information Communication Technology for Development (ICT4D)** and the **Association for Progressive Communications (APC**), mentioned in other sections of this report. Besides generating supranational relationships between different actors (for example, through the Forum on Internet Freedom in Africa), it drafts annual reports about internet access in African countries.

Also on the African continent, in a bid to develop and provide technology services, experiments like **Moja Wifi** platform have been conducted. This Nairobi-based project offers internet, cloud and entertainment services to areas with low connectivity. It relies on a closeness with the private sector, which involves monetizing artists' content128 or users' time (by interacting with ads, completing surveys or downloading apps) to obtain a better service.

As for European projects, the Catalan community internet network **Guifi.net** (guifi.net) operates (like most of the experiments mentioned in this section) like a connectivity service provider following net neutrality and community connectivity principles.

There are also civil society-led or community projects that offer a higher level of citizen independence. In this sense, cases like the non-government organization, **AlterMundi**, stand out by promoting the first community network in Argentina, one of the first in Latin America (and the world), deployed with **LibreRouter**, a free software and hardware development project, also led by AlterMundi.

In this area, other outstanding community networks include **NonoLibre, QuintanaLibre** and **MolinariNe**t. For its part, the Argentine Summit of Community Networks (or **CARC** as it is known by its acronym in Spanish) has helped coordinate researchers specializing in community network deployment with organizations interested in implementing networks in Cordoba, Santa Fe, Jujuy, Salta and Buenos Aires.[129] Other initiatives, such as **Atalaya Sur**, also in Argentina, aims to provide internet access to families in emergency situations in the heart of Buenos Aires urban area.

At the international level, **Rhizomatica**[130] stands out as an organization that provides rural, indigenous or remote communities with self-managed mobile connectivity services, as is the case of the **Indigenous Telecommunications Network in Mexico**.[131] Moreover, the Association for Progressive Communications has extensively documented many other similar initiatives across the world.[132]

Besides providing infrastructures for citizens, civil society organizations also work to build other activist organizations' sovereignty and develop digital sovereignty notions and practices related to connectivity. This is what **Código Sur** does. The organization is legally established in Costa Rica but works continent-wide with teams throughout Latin America, providing free-of-charge 'infrastructure based on free software and neutral data centres with high availability bandwidth and hardware in a reliable, safe and respectful environment used by human rights organizations, social movements, institutions, collectives, NGOs and community media'.

128 More details: https://community.interledger.org/amkakenya/monetizing-creative-content-on-moja-wifi-in-kenya-2aih

129 Read more about community networks in Argentina (in Spanish): https://ri.conicet.gov.ar/handle/11336/142006

130 More information: https://www.rhizomatica.org/.

131 For more details (in Spanish): https://www.tic-ac.org/. Also in (in Spanish) L. Bravo. *Una semilla brota cuando se siembra en tierra fértil.* Spideralex (Ed.), *Soberanía Tecnológica, 2.*

132 More examples of the Association for Progressive Communications community network projects: https://www.apc.org/en/topic/community-networks.

In addition to this work on infrastructures are the efforts made towards what was once called superstructure, publishing magazines like **Pillku**, which discusses free culture and commons, a podcast, **Pitaya digital**, and an informative channel called **Resistencia Digital**. Related training includes a feminist free technologies school, as well as publications, such as **Milpa digital**, both created to provide training on how to use free technologies, **La Libre**[133] in Ecuador and the cooperative **Tierra Común**[134] in Mexico.

The right to data control: from data protection to procommons

Bringing public and private actors and activists together, **MyData** is perhaps one of the most powerful initiatives in recent years. It is a non-profit organization to 'help organizations build human-centric solutions and services' and collaborates 'with local, national, and international stakeholders to advance ethical use of personal data'. Furthermore, its purpose is to 'empower individuals by improving their right to self-determination concerning their personal data'. MyData's global-scale advocacy and education work falls within the current hegemonic models because it does not question data collection although it does advocate change within the status quo.

In addition to the debates like those promoted by MyData, often addressing personal data, there are open data initiatives that do not put so much emphasis on personal control but rather on opening and making different types of data public, especially state data. In this sense, there are two alternatives to MyData and the Open Data Initiative model. Some of them stand out for their experimental, narrative radicalism, from the **Good Data** manifesto[135] to the **Data Commons Manifesto**[136], which combines a strong view of autonomy for individuals with a commitment to democratic, socialized and fair architecture for collectives. The feminist manifesto **Feminist Data Manifest-No**[137] is also worthy of mention, which includes an intersectional view of the vulnerabilities and discrimination involved in data production, management and use in digital capitalism, especially for minority groups.

Exploring the collective, decolonial gaze more deeply, we found networks like **Global Indigenous Data Alliance**, launched in 2019, which is a network of researchers, data analysts and political activists who champion the sovereignty of indigenous data in their countries and internationally. It is aimed at indigenous data users, community networks, ITC providers, businesses, etc. Its objectives are to advance sovereignty and safeguard the indigenous people's data-related rights and interests, advocate the use of data for the self-determined well-being of indigenous people, and strengthen their rights to intervene to make decisions about said data by the collective values and interests. This network is the fruit of a partnership between **Te Mana Raraunga**, a network that advocates Maori data sovereignty, the Australian **Maiam Nayri Wingara Collective** and the United States Indigenous Data Sovereignty Network.

Along these same lines, collaboratories for indigenous data governance have emerged.[138] Some organizations preceded these initiatives, like the **First Nations Information Governance Centre**, which seeks data sovereignty for every North American First Nation in alignment with its world view. From the same decolonial standpoint and with support from the Mozilla Foundation, the project **My Data Rights** came to fruition, which calls for a review of society's datafication from an African perspective. Lastly, in Asia, we find initiatives like the

133 More information (in Spanish): https://lalibre.net.
134 Further reading (in Spanish): https://tierracomun.org/.
135 Read more about the Good Data Project: https://networkcultures.org/blog/2019/01/11/principles-of-good-data/
136 An article about this manifesto, on which one of this report's authors collaborated: https://tecnopolitica.net/en/content/data-commons-manifesto
137 For further reading: https://www.manifestno.com/.
138 Read more about this matter: https://indigenousdatalab.org/

Data Governance Network, a 'think/do tank' committed to research and public policy on data governance in India, which undertakes work that can be transferred to other contexts.

Rights related to algorithms and artificial intelligence (AI): from transparency to empowerment

The different algorithms and systems included in the broad, problematic category of AI define much of our daily lives today. AI algorithms and systems play a relevant role in previously described processes, which produce or reproduce discrimination, polarization or precarious living standards. AI systems and automated decision making, such as those increasingly used in staff or student selection, crime forecasting or loan approval processes are trained with huge datasets that can include errors or highlight aspects of the world that later generate biases.

Some recent declarations, such as the European declaration, have focused on highlighting the relevance of transparency and empowerment rather than algorithms and AI systems, requiring them to be safe and respectful of human rights. Similarly, they consider that AI systems should be excluded, or at the very least, supervised by humans, in areas such as health, education and employment.

Shortcomings and unfairness in both their construction and design, as well as how these technologies are used have prompted civil society to create organizations that try to break the 'black box' of AI systems to analyse the algorithmic processes that take place within them to audit their decisions. In this regard, civil society organizations have followed different strategies. An example is **Algorithm Watch,** a non-profit research and advocacy organization located in Germany. It aims to watch, unpack and analyse automated decision making and its impact on society.

Collectives like **Algorace**, as previously mentioned, are committed to 'deracializing AI'. Meanwhile, in India, organizations like **Digital Futures Lab**, a multidisciplinary research network on the interactions between technology and society in the global South, question phenomena such as introducing machine learning technologies to sectors like agriculture and health.[139]

In addition to the critical approaches, some civil society initiatives have used systems often labelled as AI to pursue their objectives. In the media sector, fact-checking platforms like Ecuador Chequea, Colombiacheck and La Silla Vacía have used machine learning to verify official information and detect fake news.[140] Initiatives like **Citizens Foundation**, an Icelandic non-profit organization (launched in 2009 in connection with a round of movements in the country[141]) are experimenting with AI systems to help them with 'fighting filter bubbles[142] and biases to help citizens make informed decisions based on their real needs, empowering them with relevant knowledge'.[143]

Collectives like **Dyne**, located in the Netherlands, have examined how to diagnose problems

139 Read the report: https://www.responsibletech.in/post/towards-responsible-data-practices-for-machine-learning-in-india-health-agriculture

140 For more cases: http://www.profesionaldelainformacion.com/contenidos/2021/nov/barredo-de-la-garza-torres-lopez_es-.pdf

141 More details: https://www.opendemocracy.net/en/opendemocracyuk/priorities-of-people-interview-with-citizens-foundation/

142 Filter bubbles make everything a user sees aligned with their preferences. It is the result of AI being trained with each person's individual internet use. It eventually only suggests what the user is going to like, therefore distorting their perception via biases.

143 Further reading: https://www.citizens.is/empower-citizens-with-ai/

associated with algorithmic governmentality,[144] reclaimed algorithmic sovereignty to counteract it[145] and launched technological development projects to facilitate it.[146] **Zenroom** is one of these experimental projects, offering 'easy cryptology for the people'. It is a small virtual machine that performs quick end-to-end encryption operations (on desktops, mobiles, browsers, etc.), and authenticates and manages data access using human-readable smart contracts.

The right to a diverse and inclusive digital environment: from MAMAA to the Fediverse

In recent years, diversity in digital technologies has dwindled drastically. On the one hand, the concentration of internet browsers represents a paradigmatic case. On the other hand, it seems that YouTube has little competition as a hegemonic video-sharing platform with 2.6 billion monthly users.

The social media market is crowded, by Meta and its platforms – Facebook (2.91 billion users) and Instagram (1.478 billion users) – or by Chinese alternatives like TikTok (1 billion users).. Moreover, the combined monthly users of WhatsApp (2 billion) and Facebook Messenger (1.3 billion) takes up most of the instant messenger market, although WeChat (1.251 billion), QQ (591 million) and Telegram (550 million) have considerable user bases.[147] Most of the aforementioned digital services – especially the most used ones – are offered by large corporations, most of which are North American or Chinese. This has reduced the cultural diversity of their very design and could be also contributing to reducing the diversity of cultural expressions that underpin them.

As a response, initiatives like Fediverse have emerged. Its name is a portmanteau of the words 'federation' and 'universe', and it is an open network of servers used for social media, microblogging and video services, among others. It uses software that works through standard protocols, connecting independent servers to each other via an open, decentralized architecture.

Within this ecosystem there are platforms like **Mastodon**,[148] an ad-free, donor-funded microblogging service. Its design is similar to Twitter, which is why hundreds and thousands of Twitter users have migrated to Mastodon after millionaire Elon Musk (figurehead of Silicon Valley hegemony par excellence) recently bought the social network.149 Another example is **Friendica**, which is defined as a free and open-source distributed social network (working similarly to Facebook). It has high privacy standards and no corporation behind it. It aims to be federated with as many social networks as possible, which includes a range of platforms from **Diaspora** (another non-corporate social network) to Facebook and Twitter.

Moreover, **Hubzilla** is a 'platform to create interconnected websites featuring a decentralized identity, communications and permissions frameworks built using common webserver technology'. This makes moving content between websites possible, among other things, thus avoiding censorship. PeerTube is a video-sharing platform currently run by **Framasof**t, a 'not-for-profit popular educational organization' that hosts free services and promotes alternative tool repositories.[150] Recently, **Means.tv** has been presented as 'the world's first worker-owned streaming service', a sort of anti-capitalist Netflix.
With regard to reduced diversity, interventions and campaigns aimed at promoting more diverse digital

144 Discover more about this issue: https://www.cairn.info/revue-reseaux-2013-1-page-163.htm
145 Read more about this issue: http://hdl.handle.net/10026.1/11101
146 Further reading about AI and democratic governance experiences: https://algosov.org/
147 Further reading about the use of instant messaging platforms: https://www.messengerpeople.com/global-messenger-usage-statistics/amp/
148 Learn more: https://joinmastodon.org/.
149 M. Cambronero. (14 November 2022). *Tumulto en Twitter o una nueva oportunidad para las redes que queremos. Instituto de Estudios Culturales y Cambio Social.*
150 Visit Framalibre's alternative tool repository: https://framalibre.org/alternatives

environments have been launched. **Body and Data**, an association founded in 2017 in Nepal, works with the idea that bodies are part of users' identity in the digital ecosystem and that apps should not reduce the construct of data subjects to mere passive consumers. Doing so is depriving them of their corporeality and digital identity. One of its most interesting lines of work is presenting individual identities from more complex levels than Instagram allows, where identity and corporeality are reduced to a series of images and tags. This line of work champions diversifying body representations online.

Furthermore, Body and Data describes itself as a project that works to 'enhance understanding and access to information on digital rights among women, queer people and marginalized groups where they are able to exercise their rights in a safe and just digital space'. To this end, it is also actively working on the right to inclusion in a more enabling sense.

Mozambique-based **A11Y** is also committed to making technology more inclusive. In this case, it focuses on ensuring that people with disabilities can enjoy technologies' advantages. A11Y aims to improve website usability and user experience for people with or experiencing vision, hearing or mental impairments. In India, the **Center for Internet and Society** has launched several accessibility initiatives for voice interfaces, government websites or mobile accessibility for people with functional diversity or disabilities. Some companies are taking a more social approach specializing in developing accessible digital services and products. This is the Argentine company, **Topos**,[151] case. Its website features a widget that allows users to customize how it views the text, colours and animations, among other aspects, to adapt it to their individual needs.

In the field of linguistics, the project **Activismo Digital de Lenguas Indígenas** (digital activism of indigenous languages) endeavours to preserve the rich linguistic and cultural diversity on the American continent 'with more than 900 indigenous languages, most of which are at risk of disappearing'. Through forums, campaigns, repositories and other practices, the project **Rising Voices** – a **Global Voices** initiative – is supported by an international community of people who write, translate, research or report citizen media content across the world.

The initiative **IdemiÁfrica** is also committed to preserving African first languages. For its part, the project **Mozilla Nativo**, created by Mexican Rodrigo Pérez Ramírez, translates the Mozilla browser into Native American languages. Brazilian project, **Vídeo nas Aldeias**, is another cultural diversity initiative. It has been producing indigenous films since 1986 and has its own video-on-demand platform.

151 Discover more about this initiative: https://topos.la/.

The right to digital innovation: from free *software* and *hardware* to *transhackfeminism* and tequiology

One of the most powerful tools to combat the intellectual property and patent system's constant expansion (one of digital innovation's main enemies) has been the classic four freedoms formulated by Richard Stallman (who is, however, criticized for his sexist behaviour[152]). These four freedoms – supported by the **Free Software Foundation** and endless initiatives, collectives and projects for over four decades – are:

> 'The freedom to run the program, for any purpose (freedom 0).
>
> The freedom to study how the program works, and change it so it does the computing as the user wishes (freedom 1). Access to the source code is a precondition for this.
>
> The freedom to redistribute copies so users can help others (freedom 2).
>
> The freedom to distribute copies of modified versions to others (freedom 3). By doing this, the whole community has a chance to benefit from changes made by other users. Access to the source code is a precondition for this.
>
> A program is free software if it adequately provides users all of these freedoms.'

Free software logic and innovation can be found in most of the server infrastructures underpinning the internet: **Apache HTTP Server,** maintained by the **Apache Software Foundation**, is an open-source web server software. In June 2022, it was estimated that Apache served 31.4% of websites across the world (the second most used after Nginx with 33.6%) and the most used among the busiest websites.153 Some parts of platforms like Facebook or Google also work with open-source code.

As for hardware, the list of areas where the logic of free innovation has reached is equally endless: from telephony to videos, from robotics to renewable energies, from architecture and domotics to aeronautics and medicine and from 3D printers to scientific apparatus. Many of them are used in projects like **Open Source Ecology** (OSE), which describes itself to be 'an open technology platform that is developing a set of the 50 most important machines that it takes for modern life to exist' or 'to build a small, sustainable civilization with modern comforts'.

Furthermore, global organizations like the **Association for Progressive Communications** have launched projects more geared towards transforming technology-related public policies and institutions, not just the technologies themselves. An example is the project **Africa ICT Policy Monitor,**[154] which aims to enable African civil society organizations to participate in drafting tech-related policies to promote an information society based on social justice and human rights. The project, which was launched in 2001, focuses on nine African countries: South Africa, Zimbabwe, Kenya, Uganda, Democratic Republic of Congo, Nigeria, Senegal, Ethiopia and Egypt.

152 More information about this issue (in Spanish): https://medium.com/lasdesistemas/el-genio-machista-tan-genio-no-es-d04ee4057dce

153 More details: https://en.wikipedia.org/wiki/Apache_HTTP_Server

154 More information: https://www.apc.org/en/project/africa-ict-policy-monitor.

In addition to software and hardware, *hacklabs* have been created at the very foundation of the right to digital innovation: 'a hacklab is a collective whose work is adhered to the defence of free computing, free information and ethical, social and environmental implications of technologies, and that besides research and analysis, performs social outreach and looks to offer alternatives'.[155] In line with their critical and activist outlook (e.g. related to promoting free software), hacklabs or *hackerspaces* are useful 'for socializing, learning and experimenting with technologies'. They also often offer users the chance to give or receive tech courses (programming, electronics and mechanical design at all levels), as well as participate in group projects. They also provide a space that promotes research, debate and disseminating projects about the internet, new technologies and the freedoms and rights associated with them. Similarly, they are spaces for social and exchange activities related to these subject areas.[156]

In recent years, due to the popularization of modelling technologies and 3D construction printing, *makerspaces* and *fablabs* have also appeared. These spaces are used to create objects or even hardware in line with the Do It Yourself (DIY) philosophy or the more recent critical and collective Do It With Others (DIWO), also known as Do It Together (DIT). In 2022, it is estimated that there were 856 hackerspaces, hacklabs and makerspaces internationally, according to the list created by the **Hackerspaces.org**[157] community. Most are located in European countries and the United States, although they are becoming more popular in Latin America, Africa, Asia and Oceania. To highlight just a few: **Laboratorio Hacker de Campinas - LHC** in Brazil, **Rancho Electrónico** in Mexico or **MZ Baltazar's Laboratory** in Austria (specializing in feminism and visual arts). African and Asian experiences include **Makers Asylum** in India, **Hackerspace** in Singapore and **Co-Creation Hub** in Nigeria.

Recognizing the limitations many of these spaces have towards feminist, anti-racist or anti-ableist perspectives, *hackfeminist* and *transhackfeminist* initiatives and spaces have been created in recent years. They endeavour to 'hack with care',[158] to refocus hacking practices and knowledge in connection with the bodies that practise them. This has posed new questions, ranging from digital violence to sexism in hacker environments, and technology environments, more generally. Feminist research, training, development and critical innovation collectives, such as the aforementioned **Donestech** in Catalonia, have been hubs for transhackfeminist reflection and practice in Europe, while collectives like **Sursiendo** have encouraged initiatives in countries like Mexico.

Mixe linguist and language rights activist Yásnaya Elena Aguilar Gil coined the concept of tequiology[159] to refer to 'collective work for mutual support', which different Mexican indigenous people call '*tequio*' (from the Nahuatl for *tequitl*) or '*faena*'. Thanks to this work, 'schools have been built, drinking water systems installed and artistic projects carried out', tackling daily life as a community. This word also looks to highlight the fact that 'the open nature of open-source code promotes joint progress, since Abya Yala, the collaborative work of tequio raises the prospect of resistance and can also shed some hope in the context of a climate crisis threatening human life'. Perhaps this potential dialogue could also be enriched with examples like the most used free PC operating system in the world: **Ubuntu**[160] (a Zulu word translated as 'I am because you are; we are because you are'[161]). Ubuntu is a project that, beyond its name, embodies the idea of collaboration, collectivity and interdependence in practice: a common humanity to which the aforementioned Zulu word makes reference.

155 Further reading about hacklabs as a concept (in Spanish): https://www.picahack.org/preguntas-frecuentes.html#hacklab

156 Further reading about *hacklabs* and *hackerspaces*: https://es.wikipedia.org/wiki/Hacklab#cite_note-3

157 More information about active hacklabs, hackerspaces and makerspaces across the world: https://wiki.hackerspaces.org/List_of_Hacker_Spaces

158 Discover more about these initiatives (in Spanish): https://donestech.net/noticia/fanzine-resultado-de-las-jornadas-transhackfeministas

159 Further reading on tequiology (in Spanish): https://restofworld.org/2020/tecnologia-tequio-cambio-climatico/

160 Further reading on the operating system Ubuntu: https://ubuntu.com/blog/tag/ubuntu-software-center

161 More background reading: https://www.theguardian.com/theguardian/2006/sep/29/features11.g2

4.2.3. Strategies and reflections

Regardless of their connection with certain rights or their geographical location, it is important to analyse the initiatives above according to the objectives they pursue. Said objectives and related practices give an idea of the wealth of activities that civil society is undertaking across the world to guarantee human rights at the intersection with digital technologies.

We have seen how some initiatives perform **legal and judicial work,** ranging from litigation (e.g. the Electronic Frontier Foundation supports people whose rights have been violated) to promoting new legislation. This second type of legal work is often combined with advocacy, which also includes other activities, such as promoting certain public policies, a purpose characteristic of initiatives like La Quadrature Du Net.

Many other initiatives analysed are more citizen-centred and focus on **public communication** by launching independent communication media, campaigns and making interventions in the general media (television or radio appearances, opinion pieces in mainstream newspapers or magazines), etc. Initiatives such as Indymedia and Plaza Pública in Brazil are worthy of mentioning in this area. Continuing at a grassroots level, **mobilization and social protest**, when not direct action, are part of the work of several initiatives included (e.g. ACORN Tenants Union), and the organizations and networks that appear or participate in social movements, from the 15 M movement to Extinction Rebellion. **Citizen-centred training and education** is another common practice among technology and rights-focused initiatives. Others, like Africtivistas, also target the public and private sectors, communication media and activists themselves.

Some initiatives focus on **care**, especially mutual care, within or between communities, as is the case of the initiative Ciberseguras' digital self-defence training efforts. **Networking** is another key practice for many of these projects, such as the Association for Progressive Communications. On a more technical level, **technology design and development** is one of the most common dimensions of the projects listed, including Ushahidi and Loomio. We have also seen the relevance of **digital service provision**, for which several Latin American community internet initiatives mentioned in this report stand out. Closely related to this is **technological tinkering**, which includes practices from technology modification to repair and reuse, from software to hardware and beyond, which is typical of makerspaces and hacklabs. Tinkering can also cover the data analysis for advocacy purposes used in the 2019 protests in Chile.

Research is another dimension present in many of the initiatives, and the Center for Internet and Society in India is an example of that. On an entirely economic level, some hackerspace networks aim to **activate and promote the productive fabri**c, while organizations like Mozilla Foundation provide financial **support** – another relevant practice – to a wealth of activist projects. Many of these initiatives **produce, innovate, preserve and disseminate culture** as part of their work, a dimension that we mention for projects like Vídeo nas Aldeias and Means.tv. There are also hybrid practices, like filtering, which combines **hacking** and **public communication** or **trade unionism**, which involves advocacy, mutual care, public communication and social mobilization.

5. Uncertainties, proposals and new imaginaries for digital rights

5.1. Uncertainties: ecology, economy, politics

Achieving a desirable society requires spaces and processes to reflect on technology and its current situation from a critical perspective, while also being constructive, realistic and imaginative. This requires a diagnosis and a prognosis that include economic, political and climate factors at the core of its approach. It is at the intersection between transformative action and critical reflection that we must consider the future of digital societies.

To this end, we can start by asking ourselves if futures alternative to hegemonic models are possible. Secondly, we should consider if such desirable alternatives could be sought in such a digitalized society and in a socio-economic system such as the current one. In previous sections, we – albeit briefly – reviewed the past and summarised both the hegemonic and the counter-hegemonic present of digital society. In this section, we will look to the future and discuss some ecological, economic and political uncertainties.

Regarding the ecological impact, corporations like Shell, BP, Chevron and ExxonMobil are turning to Big Tech to discover, extract, refine and distribute more petrol and gas, as well as reduce production costs. Amazon, Google and Microsoft are cashing in with lucrative cloud computing and other AI technology contracts for petrol and gas companies, while undermining the climate objectives they have publicly declared.[162]

Exploring further is the direct impact the technology industry itself has. What is certain is that these companies require a significant amount of materials, from lithium to rare earths. Extracting, transporting and processing these materials require energy and generate considerable waste, as well as potential human rights violations. As the European Commissioner for Internal Market recently recognised, this means that a 'green and digital transition' (an ambition of the European Commission itself, among other actors) towards a sustainable society is not possible without rare earth sources, needed to manufacture chips, electric vehicles and renewable energy systems.

162 Discover more about this issue: Brevini, 2022; Dauvergne, 2020; and the books *Is IA good for the planet?* (https://www.wiley.com/en-us/Is+AI+Good+for+the+Planet%3F-p-9781509547944) and *AI in the Wild. Sustainability in the Age of Artificial Intelligence* (https://mitpress.mit.edu/books/ai-wild)

Then there is the energy use associated with digital technologies. The growing production, use and disposal of these technologies has resulted in considerable energy use.[163] However, strategies to mitigate global warming highlight the need to reduce said use, as well as the urgency to move towards an energy provision model based on renewable electricity sources.[164]

Furthermore, digitalization boosts economic growth but digital services are more intensive on energy consumption than others. In short, digitalization based on the hegemonic economic model increases energy use and therefore promotes global warming.

Lastly, autocracy seems to be gaining ground. As was highlighted in a recent Varieties of Democracy (V-Dem) report,[165] in view of the hopes raised at the start of the decade, the period from 2011 to 2021 saw (digital or digitally supported) state authoritarianism grow across the world. Recent news, however, suggests that the bigger picture is not so ominous. Civil societies in Latin America (based around on social movements, parties or intermediate forms, depending on the case) have been able to progress thanks to social networks and hybrid mobilization spaces on and offline.

5.2. Open futures: proposals and imaginaries for alternative digital societies

5.2.1. Political imaginaries: reflecting on technopolitical democratisation[166]

Given the authoritarian tendency, horizons such as technopolitical democratization seem as difficult as they are necessary. The relationships between technology and politics in the framework of technological democratization must be understood as a two-way process. On the one hand, to democratize the different technological layers of digital society, and on the other, to align and mobilize these layers to democratize other social realities, such as politics, the economy or culture. This idea goes beyond others, such as technological sovereignty.[167]

There are several strategies available to promote this type of democratization digital. One of them is to work on building alternatives to existing institutions and technologies. Alliances to achieve such can also be very varied. We shall only examine two types. On the one hand are mutual or independent alliances, promoted from the area of work and economic production (cooperative economy, social and solidarity organizations, trade unions, universities, etc.) and social and political action (social movements, foundations, NGOs, etc.). On the other hand are public-mutual alliances that seek cooperation between the aforementioned actors and state institutions. It is somewhat complex but potentially crucial when promoting technological projects.

163 For more information, see the following references: Andrae & Edler, 2015; Belkhir & Elmeligi, 2018; Malmodin & Ludén, 2018. And: 1) https://www.mdpi.com/2078-1547/6/1/117; 2) https://doi.org/10.1016/j.jclepro.2017.12.239; 3) https://doi.org/10.3390/su10093027.

164 Discover more about this issue: https://www.ipcc.ch/report/sr15/

165 Report available: https://v-dem.net/media/publications/dr_2022.pdf

166 This passage is based on a previous text (in Spanish):https://anuariocidob.org/democratizacion-tecnologica-reimaginando-la-sociedad-digital-de-abajo-arriba/ which was later revised (in Spanish):https://tecnopolitica.net/es/content/democratización-tecnológica-notas-para-reimaginar-la-sociedad-digital-de-abajo-arriba

167 Programmers and hacktivists like Alex Hache (2014) have proposed using the concept of technological sovereignty (by analogy with food sovereignty) to create a model of technologies by and for civil society. The term is now in common use among different digital activism and hacktivism sectors. However, the deep-rooted statist tradition of the concept of sovereignty, as well as the continued use of the term (or its twin brothers, like 'digital sovereignty') by state and suprastate institutions during the past 15 years (Chander and Sun, 2021), seems to limit its political potential. Furthermore, it places emphasis on civil society and its appropriation of technology. However, it now seems necessary, on the one hand, for said civil society to include the state in its strategies, and on the other, that it does not only appropriate technology but also politics. Further reading on technological sovereignty from grassroots movements and communities (in Spanish): https://www.ritimo.org/IMG/pdf/dossier-st1-es.pdf

Both types of initiatives have been organized in cities like Barcelona. Independent projects like Guifinet provide internet services. Others provide cloud services (Framasoft, Maadix, Commons Cloud) and social media (Fediverse). Lastly, a public-mutual project like Decidim makes its participatory digital software available to political, social and economic organizations. In doing so, it aims to facilitate their democratization. The combination of these projects and platforms offers features similar to those offered by Facebook but its code design and governance, the data produced in them and, ultimately, the social norms they favour, are based on democratic criteria (participation, privacy, sovereignty, etc.) and aim to promote common goods (sustainability, personal and collective growth, etc.). Even despite the many current limits, they are projects that strive to build an alternative – a more democratic model.

5.2.2. Economic imaginaries: notes on digital socialism

Socialism is understood as a social horizon defined by principles such as justice, equity and solidarity, concepts very much present in the third sector and most of the initiatives listed. The technological component appears in connection with this horizon. On the one hand, it is a matter of imagining how digital technologies could be used for purposes other than business profitability, and, on the other hand, helping each individual contribute, decide, share and benefit from technological advances to achieve societies defined by the aforementioned principles.

A key issue is, therefore, how to organize and how to use technologies as a change trigger.[168] Digital socialism goes two ways. On the one hand, in economic terms, it advocates sharing the production and ownership of platforms, technologies and other key aspects that determine the technological layers and social forms built atop of them so that everyone – individually or collectively – can contribute to defining their forms. On the other hand, it advocates that the results from the human interaction with these technologies that generate products or services can be shared quickly, directly and freely between the rest of the people in a society.

This has its political implications. Not only is it a question of distributing economic resources – as was established when socialism was first applied in communist countries – but also guaranteeing the conditions to share power. It is at this point, in fact, where technology governance and technopolitical democratization are of great importance. It would be a matter of laying the foundations to ensure that technological and social institutions can be revised and are accessible to anyone who is a part of them or is affected by their actions. In this sense, if we consider technologies to be collective democratic institutions, then socialism is a coextensive requirement of democratization: everyone should have ownership of them so that anyone can propose reforms around them or work to implement any kind of innovation that can benefit the majority.

In this context, the areas covered by the initiatives described in this paper are of great importance. If, for example, there were no large-scale platforms, based on open-source code, whose users can audit them, co-design them and co-govern them (perhaps following the liquid democracy model mentioned above), then digital societies would continue being dependent of corporations located in Silicon Valley and Beijing.

This is a key struggle of our times and it can be described as a battle for digital socialism, which tries to renew socialist thinking and imaginaries to adapt to the present. Trade unionism and platform cooperativism are currently spaces for experimentation and struggle that can help explore the possibilities and current limits of this imaginary and progress towards the horizon it outlines.

168 E. Morozov. (2019). *Digital Socialism? The Calculation Debate in the Age of Big Data. New Left Review,* (116), 33–67

5.2.3. Ecological imaginaries: from technological flourishing and permacomputing to tequiology and the Good Living ('Buen Vivir')

This framework can include strategies like technological flourishing (in contrast to the traditional technological obsolescence), which focuses on durability, reusing, repairing and the qualitative use of technology for the flourishing of individual and collective life – both human and non-human. Others, like permacomputing, mentioned above, aim for 'a radically sustainable approach to computing, inspired by permaculture'.

A somewhat utopian yet pragmatic approach would be to question where high technology's (like computing) place would be in a world in which human civilizations contribute to the well-being of the biosphere instead of destructing it. Part of the answer lies in radically reducing waste, maximizing the useful life of hardware and minimizing energy consumption, recognizing that the virtual is not immaterial, time online should be used wisely, not everything has to be constantly available and doing things with less is not going back in time. These approaches are often also in line with the idea of slow and low tech,[169] which should be one of the key elements in the ecosocialist technopolitical mosaic (while also recognizing the need for big and fast tech is some areas).

Moving away from hegemonic technological and thought models, perhaps some of the concepts already mentioned in this paper could be brought back to the fore, like tequiology, which considers a collaborative and mutually supportive understanding of technology within the planet's ecological limits. Furthermore, a technology model shaped by the notion of '*sumak kawsa*y' could be envisaged, which embraces the idea of *good living*, or more precisely, *a plentiful life*.[170] The expression – a neologism in Quechua coined in the 1990s – was first created by indigenous organizations and intellectuals from the Americas as part of a political and cultural proposal and outlook. It was later adopted by governments and constitutions in Ecuador and Bolivia. *Sumak kawsay* considers humans as part of the Pachamama or 'Mother Earth'. In contrast to hegemonic technology models, the *good living* would seek balance with the biosphere by satisfying needs rather than mere economic growth.

169 P. Dávalos. (2011). *Sumak Kawsay (La vida en plenitud)*. In Álvarez, Santiago (ed.), *Convivir para perdurar: conflictos ecosociales y sabidurías ecológica*s. 201–14. Icaria. Retrieved 2 August, 2022 from (in Spanish): https://dialnet.unirioja.es/servlet/articulo?codigo=3716824 . Find more information: https://www.lowtechmagazine.com/

170 For further reading (in Spanish): https://dialnet.unirioja.es/servlet/articulo?codigo=3716824

6. Conclusions

Somewhere between the Western colonial, liberal hegemony and the counter-hegemonic readings, the success of the human rights framework internationally would suggest that the most pressing challenge now is to ensure that said rights are upheld. This is without considering the necessary criticism and potential improvements (such as including non-human beings and realities as rights-bearers or the social horizons they are aiming for). This is where the impetus of decidedly counter-hegemonic initiatives is essential and regional, state and international alliances, enabled by appropriate technologies, seem urgent. Moreover, this impetus seems to require the building of strategic or tactical alliances with state powers, while maintaining room for manoeuvre and exploring alternatives to the state control in an increasingly autocratic world.

In a world that was first globalized and is, today, incipiently fragmented and polarized, being able to share and build knowledge and common struggles, from a local to global scale, with horizons of radical transformation, seems to be the only strategy to try to confront powers and dynamics that have defined the planet for centuries. This may involve the construction of movements that are not aligned geopolitically, especially now that the hegemonic alternatives in question seem to share a common economic system as their foundation and horizon. Grassroots movements capable of mobilizing and realigning, and maybe reversing or subverting the axes of conflict. The polarization along the US–Europe and Russia–China axes (where, moreover, the most militaristic actors – the United States and Russia – seem to set the pace) represents a conflict centred on economic gain and geopolitical power. To confront such, aligning with other alternative axes, in terms of digital human rights and sovereignty (monoculturality–interculturality, colonialism–decolonialism, autocratization–democratization, capitalism–ecosocialism) seems urgent.

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