

Conviviality after Social Platforms: Toward an Amateur Way of Dealing with the Internet

Lucas Casagrande¹
Marcelo Castañeda²

Introduction

There is no doubt that many ways of living are performed through “social networks.” These ways become even more usual as the current pandemic of Covid-19 forced socialization to be made mainly through digital means. And despite this mediation of life becoming increasingly regular, it is not a new phenomenon. It comes from, at least, the 1970s, as late industrial capitalism emerges. In this process, the old Taylorism-Fordist model gives space to a flexible way of accumulation of capital, with immense financial concentration (Harvey, 1989; Bolstanski & Chiapello, 2005).

In this essay, we want to explore why digital platforms (i.e., Facebook, Instagram, Tiktok, Snapchat, Twitter, so on...) became só prevalent and relevant in our world. Our hypothesis, based on Illich’s oeuvre, is that we are becoming part of the cybernetic text as tools deeply embodied in the systems.

Our hypothesis is based on how Illich³ understood the idea of contingency. Based on that, how he understood modernity’s formation as the change in, first, *causa efficiens* in *causa principalis* plus *causa instrumentalis* to, then, the current extinction of the former. In

1 Professor at Escola de Administração - Universidade Federal do Rio Grande do Sul (Porto Alegre, Brazil). E-mail: Lucas.casagrande@ufrgs.br

2 Professor at FACC - Universidade Federal do Rio de Janeiro (Rio de Janeiro, Brazil). E-mail: marcelo.castaneda@facc.ufrj.br.

3 We would like to thank Nilo Coradini de Freitas for the many conversations that made possible a deeper understanding of Illich’s ideas.

this logic, hierarchy is a consequence of a new understanding of the tools and techniques.

With this, Illich proposes an ontology of the tools, which can sound like a paradox at first glance, but it is where his synthesis leads us. In modernity, the being becomes the tool.

For conviviality, we may require a new way of dealing with technique and tools, including social platforms. For this, we propose an amateur approach to the Internet as social distancing continues as the pandemic discourages us from returning to *conspiratio*.

The Formation of Hierarchy as the Formation of Animated Tools

The idea of science, initially, as *Scientia*, was originally a division of the four causes to Aristotle (1999):

- *causa efficiens* (why something happens, the agency process)
- *causa materialis* (on what materiality is made, the matter)
- *causa formalis* (the *reason d' être*)
- *causa finalis* (the end, purpose, or objective)

That division seems to last for more than a millennium. Nevertheless, as Illich (2005a) argues, as a result of a change in how humankind perceived reality, *causa efficiens* is split into two different causes: *causa principalis* (as the leading agency process) and *causa instrumentalis* (as the tools used by the agent).

In other words, there was a perceptual division of the agency in the world. That happened because it was created a *distality* (in Illich, or “mediality” in Agamben) in the use of tools. Before, the tool (*organon*) was not conceptually different from a human organ, like the hand or the mouth. The hammer, for instance, was seen as an extension of the hand. That is why both the hammer and the human who used the hammer were analyzed inside the *causa efficiens*. However, by the beginning of the second millennium after Christ, a perceptual

division as tools became more prevalent as time goes by. As such, man, on one side, and tool, on the other, began to be seen as separate causes: *causa principalis* and *causa instrumentalis*.

For a modern human, that can sound odd or even silly. But the relationship between humans and tools are not transhistorical; it changes over time. The creation of distality between humans and tools was, on the one hand, an assertion that tools became increasingly relevant and, on the other, an effort to separate who we are from what we use. As Agamben (2016) points out, the technique creates an autonomous sphere. The tool begins to be seen as neutral, independent of its user.

In this sense, tools ceased being part of the human intention and began to exist in a separate *plateau*. This separation imposes an ontological rupture in human existence. From this, it becomes possible for the tool to be a different being, even a human being. As Agamben points out, even the slave in classical Greece was not a modern understanding tool, but part of the owner's use. The modern worker, on the other hand, is a tool for the owner of the company. The human body is not used anymore; it is instrumentalized; it becomes a tool.

We want to explore the idea that the typology Illich develops in *Tools for Conviviality* makes possible this reification of the human body. For Illich (1973), we can, analytically, separate tools into two groups: the *power tools* and the *hand tools*. The latter are tools that can be used, that can be an extension of our bodies, what was before the organon. However, the former is a new form of tool that emerges in the second millennium after Christ. It is a kind of tool that can exist and operate almost without external human energy. If hand tools are bicycles, power tools are cars. If hand tools can be things like hand plows, power tools are ox plows. We can even use a shovel to take dirt from a place, but we can pay a man to do the same. A shovel is a hand tool; the man is a power tool.

Illich realized that conviviality could only be achieved when hand tools are predominant since power tools are, in a way or the other, ways to exploit (nature or other

human beings). In an exploitative system, there is the creation of a hierarchy, and, thus, conviviality becomes impossible.

In his reflection on public options, Illich (1979) describes three interrelated axes of choices: a) the justice of social class, as the X-axis; b) the usage of technologies (light or heavy) as the Y-axis; and c) the subsistence/commoditization as the Z-axis.

A convivial society should be socially distributed, without classes, with light use of technology, and highly based on subsistence. After all, if conviviality cannot be achieved by power tools, which manipulate humankind, communism is rendered impossible.

After all, “progress,” as what becomes understood in modern days, is not a dream: it is a threat. As Esteva (1987) reminds us, “development” was historically seen as a threat by peasants and vernacular communities. Moreover, as we see in Latin America in the current days, most large-scale atrocities are made in the name of development or progress. The most successful movements in our present time are based on this vernacular understanding, as the Zapatistas or the Rojava revolution.

So the creation of distality and the consequent split of *causa efficiens* in *causa principalis* and *causa instrumentalis* made possible an organized way to exploit humankind and nature. The body ceased to be of use to become, progressively, a means to produce, a means to an end. The end, in modern days, is the market.

But more than this, this split in the causes and the fact that humans begin to be tools open the possibility to an inversion in the agency system. As more and more people become tools for others, humankind loses its ability to act and create progressively and evolves, more and more, into a tool. At first, this happens with institutions that introduce what Weber (2014) described as bureaucracy: an impersonal system that instrumentalizes humans to produce something. For Illich, these institutions are a set of rules that transform human agency within predefined organizations. As humanity seeks guarantees, humans lose

autonomy.

Illich describes this process happening in a wide range of institutions, as in the case of medical corporations, that work against the health by reifying the body. While doing so, the medical corporation produces iatrogenesis, a process that creates more harm than good (Illich, 1974; 1975). He also showed how educational institutions are a propaganda machine for the capitalist system, producing skilled workers rather than anything else (Illich, 1971).

The widespread omnipresence of institutions, based on a creed of development that became hegemonical in the post-war occident, created the modern man: *homo miserabilis*. From the primary desires, like surviving, until the most complex wishes, like to love, humanity has been replaced by needs sustained by institutions. As parts of a complex industrial apparatus, men and women have needs, like machines have (Illich, 1996). That is why the modern body is “freightable”: even our need to move, to be free, can be replaced by a set of needs (Illich, 1986).

The technological hypothesis Illich offers makes it possible to understand the creation and legitimization of modern hierarchy within an ontology of tools. After all, if modernity is the historical realm where human exploitation is possible by their reification as a *power tool*, the process of agency is set in reverse order, rendering humans as tools instead of users. It's not only that *causa efficiens* splits in two, but that for most modern humans, it becomes *causa instrumentalis*. The agency process is transferred to institutions - or, in the late 20th century, social systems - through contingency. If, in the pre-modern world expressed by Aquinas, “God uses [angels] as instrumental causes towards the desired end” (Illich, 2005a, p.79), in the secularized world, as God's realm transposes to Earth, humans assume angels' position and institutions plays God's role. As Agamben (2019) notes, secularization is not, by any means, a rupture with religious thinking but a transposition of religious thought into a mundane one.

To more fully understand the historical transformation that occurred in the aftermath of the bifurcation of *causa efficiens*, one must also consider symbolic fallout. Contingency, originally in Aristotelian logic, was a sentence whose capacity to be true depended on another sentence's truth. For instance, the sentence "the name of our nearest star is Sun" is true but contingent on the sentence "we are on Earth - or in the solar system." Later, in Augustine, contingency becomes something more metaphysical. It is everything that happens outside our will, outside our agency. It's God's will (Illich, 2005).

In this metaphysics, contingency is the constant and omnipresent will of God. In this sense, everything that is not made by us, humans, is made by God. That's why leaves fall, why the Sun appears at the beginning of the day, why it winds or rains. If I can't say who did something, it's a contingency. It's God's providence. It's God's agency. By this pre-modern definition, contingency is everything that I can't change, where agency meets its limits. Illich shows us there is something relevant here in the change of how humans perceive reality: why something happens begins to be a question, a problem. Our *raison d'être* is not a given anymore (Illich, 2005).

But in the second millennium, something happened that made possible a change in contingency's interpretation. According to Illich (2005a), Thomas Aquinas changed the understanding of what is contingency. It's not God's will all the time, but God's will through a complex network of envoys - angels, archangels, the agency of its own creations on his behalf. This new interpretation made possible modernity and its way of dealing with tools, splitting *causa efficiens* into the two new causes: *causa principalis* and *causa instrumentalis*. More than this, a being can be *causa instrumentalis* sometimes and *causa principalis* at other moments. An angel acting on God's will is a tool, an *instrumentum animatum*, what Agamben (2016) calls an *automaton*. But, let's say, hypothetically, this same angel has free

time: what he does as a free angel, if such a thing would be possible, is part of the realm of the *causa principalis*. So he is both a being, an agent, and an animated tool, an automaton.

God's providence carried out by animated tools have consequences in the way modernity is based. The first one is the naturalization of an idea of hierarchy. After all, if God can create something to produce his will, there is an omnipresent natural chain of command, a universal hierarchy that acts upon us all. As Illich presents us with the hypothesis of Aquinas's new way of understanding contingency based on modernity, hierarchy in an ontology based on *animated tools* can be seen as the kick-off to modernity. This makes it possible to understand natural laws as extensions of God's will too.

A second consequence is the secularization of hierarchy. If there is God and, below him, archangels and then angels, at some points, this chain of command reaches humans. Firstly, a man that cannot be wrong would interpret God's will, like the Pope, and then bishops and priests until this long chain reaches the average person. In the end, it would be fair to say that everyone, from the highest authority on Earth to the blue-collar worker, becomes an *instrumentum* of God's will. And that's why, as of late modernity approaches with what Illich called The Age of Systems and reached its full potential, human agency is lost, and *causa principalis* is obliterated by *causa instrumentalis*. We are all tools now.

The Age of Systems

In *Medical Nemesis*, Illich (1975) describes how medical institutions create more harm than good, in what he calls iatrogenesis. He proposed there are two thresholds of healthcare. The first one was significant improvements, like clean water, sewage systems, basic hygiene, and the knowledge to deal with pain and diseases. That first watershed, once crossed, marked a notable life improvement. But, once crossed, it made it possible to believe that ailments and death could be beatable.

Legitimized by the first, a second threshold, then, was crossed. It is a counterproductive one that created terrible effects on everyone's lives. When medical advancements developed beyond the second threshold, human lives became delivered to institutions, to medical corporations, to formal organizations. What could be seen as a significant victory of modernity over death is, actually, a victory over our bodies. Despite the few years gained with these advancements, life is increasingly no longer a product of desire but production. Modern life becomes a very productive enterprise at the expense of autonomous or vernacular ways, reducing the body itself to its possibilities as a tool. To these terrible consequences, Illich (1975) proposed the concept of iatrogenesis, which he split into three types: the clinical, the social, and the structural⁴.

Clinical iatrogenesis is more easily understood, as numerous medical mistakes or procedures are considered correct but are doing more harm than good. Shortly, clinical iatrogenesis is, as Cayley (2020) points out, when "you get the wrong diagnosis, the wrong drug, the wrong operation, you get sick in hospital etc." It is when someone becomes infected with Covid because he went to the hospital to be checked for a minor issue.

Social iatrogenesis occurs when medical knowledge is considered objective truth, above choice, above us. For instance, when a fatal disease acts upon a patient and the medical facilities act in the way of capturing his final energy to deal with ineffective treatments instead of having the final moments with its dear ones. This iatrogenesis weakens social ties and turns social and personal issues into treatable health issues. In an iatrogenic society, sadness and even grief are seen to be health issues - not existential ones. In this way, social iatrogeny is a development of institutions where the medical corporation is an interpreter of reality. As such, the doctor is the one who can tell you who you can see, what to do, and how

⁴ In some translations (i.e., Illich, 1978), "structural" iatrogenesis appears as "cultural" iatrogenesis.

to interact with people.

But the third type of iatrogenesis is even more harmful: it's what Illich called structural iatrogenesis. It is when cultural abilities are replaced by what is assumed as objectively better.

Structural iatrogenesis is the concept that describes the injury inflicted by healthcare services to all modern humans. It happens when humans begin to believe their ways of dealing with problems, like grieving for lost ones or psychologically helping friends are not correct. When we can no longer ask for help among friends or neighbors, but only to specialized services, structural iatrogenesis can be noted. As time goes, this iatrogenesis produces a progressive replacement of collective abilities for institutional services. People inflicted by this iatrogenesis lose abilities, no longer having autonomy in dealing with pain, diseases, or mental distress. But since such a concept can only appear in the absence of a vernacular ability, one can seldom note it.

As even grieving became something contemporary humans understand they should abdicate, death began to be perceived as a problem to be solved in the future. Ultimately, death became a production problem, not a issue of life (Casagrande & Freitas, 2020). As we became tools, social and structural iatrogenesis is consequent. The human body is delivered to medical institutions, undermining autonomy's possibilities, destroying vernacular values. In the context of the current pandemic, Agamben (2020) proposes the following question:

How could we have accepted, solely in the name of a risk that it was not possible to specify, that persons who are dear to us and human beings, in general, should not only die alone but — something that had never happened before in history, from Antigone to today — that their cadavers should be burned without a funeral?

After the war, under the hegemonical ideology of development, the human body became the iatrogenic body, mediated by experts, doctors, and institutions. Even though most

of the popular books written by Illich were denouncing the problems that institutions create in modernity - as most of his thinking in the 1970s - his criticism evolved as times presented us with a new kind of modernity. If medical institutions create structural iatrogenesis, in the 1980s, Illich pointed out that “today’s major pathogen is [...] the pursuit of a healthy body” (Illich, 1986). The medical doctor is inside us now. The structural iatrogenesis grew inside us.

In this way, we internalize the institutions. We replace our desires with the projection of what our desires should be. The new *homo miserabilis* is not someone that separates its needs, recognized by institutions or formal organizations, from itself. He became what would be recognized as a being with needs.

As both an institution and, then, part of a cybernetic text, health became a project to transform our bodies into information, a form of profound disembodiment. As tools, our bodies become a limiting factor in the conduct of work (training, retention etc), whose loss in death translates to the loss of decades of training. As *instrumentum animatum*, humanity seeks to lose mortality and even to lose the ability to die. In this interim, we also lose the ability to live. Samerski (2018) notes, life is now equivalent to risk management. In the current pandemic, every interaction we can possibly have is calculated by the risk of being infected (or infecting). To see a dear one, is it worth the risk of 1% of this chance? And 01%? Maybe 0.01%? In the end, we can assure ourselves that no risk is acceptable and, then, interaction can only be mediated by digital means.

Social platforms - or networks - in the current days are part of this structural iatrogenesis. According to Boyd and Ellison (2006), the social network websites are based on public (or semipublic) profiles. Each profile is displayed to others. In this way, people can “walk” through other people’s profiles, finding these even more profiles on a geometric scale. Boltanski & Chiapello (2009) points out that creativity, reactivity, and flexibility are the main natural laws of this capitalism based on connectivity. They analyze how labor became a

project-based career. In these kinds of jobs, employability is based on the idea of how well connected is someone. “Network,” in this way, replaces stable structures anchored in a fixed point, like State, family, church, or other institutions.

On the one hand, this offers flexibility and new adventures in life, seen as a fluid process. On the other hand, nothing appears to be stable anymore. Since flexibility is rendered possible, these changes can be seen as desirable. The *status quo* sells it as an emancipatory way of living as if institutions’ goal is to end oppression, which is illusory at best.

As such, the distinction between professional and personal life is blurry. On the one hand, capitalism puts under tension the division between true friendship (as in *philia*) and what Granovetter (1973) called “weak social ties,” fickle companies based on shared interests. On the other hand, the rupture with the industrial Fordist model, as an impersonal one, makes necessary new organizational devices that demand competencies. These competencies are not objective skills or knowledge, but the subjective self-giving in favor of the labor or the organization. Humans are not impersonal tools anymore, but subjective tools in a complicated and vast system.

In these new labor relations, communication possibilities are crucial. And that’s why social platforms are so relevant: they provide multiple possible connections. But as any social relationship becomes a possible project required to survive, people’s subjectivity becomes increasingly more instrumental. Everyone should be open, available, in a good mood, and all these become ‘relational competencies’ required to work and survive.

Rodrigues (2010) understands that, within this cyberspace, there is a constant process of construction and expression of identity. This identity is not a personal identity but a worker role identity. We all became profiles or even brands. The logic of digital platforms promotes a convergence to a single space of all information and references about someone. Through its

digital profile, this reference is made by a persona that presents the world with narratives about itself.

Like power tools, we became part of a giant cybernetic network. In this sense, we think that in the same way *lay literacy* (as in Illich, 1986) changed subjectivities consequent to the achievement of mass literacy in former centuries, there is a new subjectivity arising from our historical time. As social networks and the Internet turn us more and more into tools to their ends, we internalize how these tools use us.

Simondon (2007) highlights that every invention (ethics, technical and scientific) that begins as a means of liberation and rediscovery of man becomes, through historical evolution, an instrument that turns against its own ends. It becomes a sphere of control of human actions, limiting agency to the symmetry between machines and humans. Such symmetry can already be seen with the Internet and social platforms, where algorithms and human decisions are intertwined.

Institutions are now integrated into a cybernetic text, and the separation between tools and users are lost. If *causa efficiens* was, back in Aristotle's days, the sole agent of reality, since *organon* were both hand and tool, now *causa instrumentalis* is the agent - and we are tools. This produces a deep ontological jump to understand our 21st-century reality, as cybernetic personality reaches the subjectivity of us all.

Social platforms are part of this dystopian nightmare where we are not our bodies anymore, but a reflection of what our mediated senses understand we should be.

This brings back to the fore the idea of managerial fascism found in the first texts of Illich from the 1970s. It is the idea of internalization, through cooptation or the kidnapping of the individuals' subjectivities, the values and ideals of the company and its members, namely, of maximization of efficiency and maintenance of safety and order. In this sense, the jogging apps, the online publications of visits to certain places (through "check-ins," "stories," and different social media posts) and other ways of reporting personal life strengthen mutual control and quantify lives to the point of achieving omnipresence of competition and of the conception of risk, which leads to burnout, fear, anxiety, and depression (Casagrande & Freitas, 2020,

p.267).

The problem of social platforms is that we are, in fact, the tools of it – and not the other way around. The platforms and their algorithms play us. Our behavior, especially in social isolation times, can be predicted until a certain point. We are watched all the time. Agency is not ours anymore, but *causa instrumentalis*. The world is out of our hands, and social platforms are one step farther in the transitioning to the *homo miserabilis*, the *instrumentum animatum*. Our body is not ours anymore: it is a *power tool*.

In opposition to this, Illich presented conviviality to be understood as a postindustrial possibility in our time (Esteva, 2014). Far from an impossible utopia, conviviality is experienced by many communities, like the Zapatistas, as described by Callahan (2012; 2019) and Esteva (2014, p. 151): “In liberating hope from its intellectual and political prison, the Zapatistas created the possibility of a renaissance, which is now emerging in the net of plural paths they discovered or is invented daily by the imagination they awakened.”

To live in a convivial society requires recovering the commons, fighting social injustice, and rediscovering subsistence. One could only achieve genuine conviviality absent the human body’s reification, which means no human could be a power tool. For this, power tools could not be the main way we technically deal with the world around us.

To eventually achieve a convivial society, we want to explore the possibility that we should invert the relationship between cybernetics and us. If lay literacy was an introjection of the text into the reader, we could say the lay cybernetics is the same in this new age. Instead of lay cybernetics, we should seek clerical cybernetics in the same sense clerical literacy was the ability to read and write. For this, we believe the Internet should be seen as an amateur⁵, a playful place. Since our bodies' transformation into social system tools was

5 By “amateur,” we mean a set of practices that are not subject to professionalization, that mixes ludic with production, relatively subsistent ways of producing information. We sense that, if a convivial community is desired, probably the first achievable characteristic of it is the possibility to deal in a more amateur way with the

made possible by the historical secularization process of contingency, a way out could be to profane it (as in Agamben, 2019). As the author points out, it is not an easy task, but it should assume playfulness instead of production. There is no prescription or model to profane and, then, restore the use of our bodies. It's only by experimentation, playfulness, and discovery that one could profane contingency, as Agamben remember us kids do.

If there is any chance of a cybernetic space that allows conviviality, it is only through non-professional ways. Instead of companies and corporations that control information production and consumption, convivial possibilities redirect us to self-made websites, home web servers, blogs instead of Facebook profiles, and "timelines." Indeed, such kinds of alternatives are not so economical, take time, and, ultimately, do not always produce a well-finished product. But, at the same time, it creates numerous possibilities, including, we hope, convivial possibilities.

One counterargument to ours' could be that convivial possibilities require *conspiratio*, to breathe the same air, to feel the same physical environment. And while we are inclined to agree with this, two problems come to mind. The first is the pandemic context, which requires, at least at some level, social distancing. The second is a broader historical context in which we are all contained when the Internet became unavoidable in our daily lives. In a way, our suggestive argument does not intend to solve the structural problems Illich wrote about contemporary society, but to mitigate its deepening seeking to possible future yet unknown alternatives to our bodies reduction to system's tools.

An amateur way of dealing with the Internet could create new possibilities but also produce knowledge about how the cybernetic text operates and its nature. Simondon (2007) argues that the most significant cause of alienation in the contemporary world lies in this

tools that surround us.

ignorance of the machine resulting from the lack of knowledge of its nature. For Simondon, technical objects are both reflective of our agency over the world as they produce their relationship with humans. In this way, to solve the alienation problem, humans should assume tools are handled and handle us. As social isolation persists relative to pre-pandemic social interactions, a conviviality project should rethink the ways we use the Internet in favor of less professional, more amateur, ways of dealing with our physical distance. Otherwise, we sense that social platforms will instrumentalize us even more, creating a new kind of dystopia inconceivable even for Orwell or Huxley. In engaging in an amateur Internet, we don't suggest the profound crisis of modernity and the reduction of the human to system's tools will be superseded. Still, we sense this is the immediate alternative to create better alternatives eventually. Then, maybe one day we can rethink and rebuild the social ties based on community, commons and subsistence.

References

- Agamben, G. (2020). *Biosecurity and Politics*. Retrieved May 27, 2020, from <https://autonomies.org/2020/05/giorgio-agamben-biosecurity-and-politics/>.
- Agamben, G. (2016). *The Use of Bodies*. Palo Alto, CA: Stanford University Press.
- Agamben, G. (2019). *Profanations*. France: Éditions Rivages.
- Aristotle. (1999). *The Metaphysics*. United Kingdom: Penguin Classics.
- Boltanski, L., & Chiapello, E. (2005). The new spirit of capitalism. *International Journal of Politics, Culture, and Society*, 18(3-4), 161-188. <http://dx.doi.org/10.1111/j.1083-6101.2007.00393.x>
- Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-mediated Communication*, 13(1), 210-230.
- Cayley, D. (2020, April 8). Questions About the Current Pandemic From the Point of View of Ivan Illich. Retrieved May 26, 2020, from <https://www.quodlibet.it/david-cayley-questions-about-the-current-pandemic-from-the->
- Callahan, M. (2012). In defense of conviviality and the collective subject. *Polis. Revista Latinoamericana*, (33). <http://dx.doi.org/10.4067/S0718-65682012000300004>
- Callahan, M. (2019). Repairing the community: UT Califas and convivial tools of the commons. *Ephemera: Theory & Politics in Organization*, 19(2).
- Casagrande, L., & de Freitas, N. C. (2020). Organizing in the age of systems: Ivan Illich's critical contributions to organization studies. *Cadernos EBAPE. BR*. v. 18, n. 2, Rio de Janeiro, Apr./June 2020. <https://dx.doi.org/10.1590/1679-395177954X>
- Esteva, G. (1987). Regenerating people's space. *Alternatives: Global, Local, Political*, 12(1), 125–152. <https://dx.doi.org/10.1177/030437548701200106>
- Esteva, G. (2014). Commoning in the new society. *Community Development Journal*, 49(suppl_1), i144-i159. <http://dx.doi.org/10.1093/cdj/bsu016>
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78(6), 1360-1380. <http://dx.doi.org/10.1086/225469>
- Harvey, D. (1989). *The Condition of Postmodernity* (Vol. 14). Oxford: Blackwell.
- Illich, I. (1971). *Deschooling Society*. New York: Marion Boyars.
- Illich, I. (1973). *Tools for Conviviality*. New York: Marion Boyars.
- Illich, I. (1974). Medical Nemesis. *The Lancet*, 303(7863), 918-921. [http://dx.doi.org/10.1016/S0140-6736\(74\)90361-4](http://dx.doi.org/10.1016/S0140-6736(74)90361-4)

- Illich, I. (1975). *Medical Nemesis*. New York: Marion Boyars
- Illich, I. D. (1978). *Némesis médica: la expropiación de la salud*. Madrid: Barral Editores.
- Illich, I. (1979). The three dimensions of public option. In I. Illich (ed.). *In the Mirror of the Past: Lectures and Addresses (1978-1990)*. New York: Marion Boyars.
- Illich, I. (1986). A plea for research on lay literacy. In I. Illich (ed.). *In the Mirror of the Past: Lectures and Addresses (1978-1990)*. New York: Marion Boyars.
- Illich, I. (1996). Necessidades. In: W. Sachs (Ed.). *Dicionário del Desarrollo: Un Guía del Conocimiento como Poder*. Lima: Pratec.
- Illich, I. (2005). Contingency, Part 1: The origin of technology. In D. Cayley (ed.). *The Rivers North of the Future: The Testament of Ivan Illich as told to David Cayley*. Toronto: House of Anansi Press.
- Illich, I. (2005a). Contingency, Part 2: The origin of technology. In D. Cayley (ed.). *The Rivers North of the Future: The Testament of Ivan Illich as told to David Cayley*. Toronto: House of Anansi Press.
- Rodrigues, C. (2010). Capitalismo informacional, redes sociais e dispositivos móveis: Hipóteses de articulação. *Galáxia. Revista do Programa de Pós-Graduação em Comunicação e Semiótica*. ISSN 1982-2553, (20).
- Samerski, S. (2018). Individuals on alert: digital epidemiology and the individualization of surveillance. *Life Sciences, Society and Policy*, 14(1), 13.
<http://dx.doi.org/10.1186/s40504-018-0076-z>
- Simondon, G. (2007). *El Modo de Existência de los Objetos Técnicos*. Buenos Aires: Prometeo Libros.
- Weber, M. (2014). *Economía y Sociedad*. Ciudad de México: Fondo de cultura económica.