



Dominating the Private World: Smart Homes and Instrumental Reason.

Dominar el mundo privado: Casas inteligentes y razón instrumental.

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ABSTRACT

This paper deals about smarthomes. It analyses them using the instrumental reason concept. It shows how smarthomes develop the instrumental reason at a domestic level. It demonstrates the lack of importance given to subjectivity, the threats of providing a big power to some individuals, the dangers for home private life and the political risks of legitimating an almost complete control of environments.

Keywords: Smart homes. Critic theory. Technology. Instrumental reason. Max Horkheimer. Modernity.

RESUMEN

Este trabajo aborda las casas inteligentes. Las analiza mediante el concepto de razón instrumental. Señala cómo las casas inteligentes trasladan al hogar el ejercicio de la razón instrumental. Demuestra la poca importancia conferida a la subjetividad, las amenazas de conferir un inmenso poder a algunos individuos, los peligros para la vida privada del hogar y los riesgos políticos de legitimar un casi completo control de los entornos.



Palabras Clave: Casas inteligentes. Teoría crítica. Tecnología. Razón instrumental. Max Horkheimer. Modernidad

1. Introduction

Technology increasingly appropriates the private areas of the subjects, this is corroborated with elements such as the permanent digital surveillance of streets, neighborhoods and shops. The contemporary world is technologically constituted. According to Mumford (1992), technological invention has become an imperative and crafting new wonders often lacks critical judgment.

Putnam (2002) alludes to the rational control of a topic does not necessarily go through the synthetic statements (which are those of the empiricist natural sciences), it is not a monopoly of these, but that the evaluative contents also represent a matter of reason. So, if that topic is technology (in contemporary times closely linked to science), the evaluative will be part of rational analysis. Because the technological transcends the mere method and implies other operations of thought, although some ignore it.

Beyond the philosophical, the reflection on technology also has historical and social importance. Based on the experience of the Fukushima nuclear mishap in 2011, a Japanese researcher states: "... scientific knowledge and technology without critical reflection are not only meaningless but also, more importantly, dangerous" [...] both scientific knowledge and technology without critical reflection are not only foolish, but are also, more importantly, dangerous] (Shimizu, 2017: 537). The critical study of inventions is therefore a significant task.¹

Due to the above, this essay starts from the concern to critically analyze a technological phenomenon: the invention of the so-called "smart homes". This concept, also known as home automation (and derived from the "internet of things"), is, *roughly*, homes with programmable conditions. Because by impacting, in an eventual way, an immediate and common environment to

¹ (Translation by Mtro. Juan Enrique Escobedo Guzmán, in collaboration with the editorial team of the magazine Sincronía.).



almost all subjects (How many do not live in a house, building or apartment?), it represents an issue that cannot be postponed.

This increases its importance after a brief review of the legislation on smart homes in Latin America. Unlike Europe (whose laws we do not analyze here), in the region the issue has not provoked the necessary political-legal study. Because of this, a topic of transcendence still has considerable gaps.

Thus, browsing the website of the Library of the National Congress of Chile does not yield data from any published law on home automation, smart homes or the internet of things. Within the framework of this article, Chilean congressmen were consulted via the Internet, but there was no response. For the Costa Rican case, we have the same situation with respect to the official website of the Legislative Assembly of Costa Rica, that is, the absence of laws regarding the subject. This is corroborated after the consultation of Ester Méndez (Personal Communication, April 27, 2020), legislative advisor who affirms the lack of legislation.

The websites of Mexico's Senate and Congress also do not reveal the existence of laws to regulate smart homes. And after consultations by mail to deputies there was no response. As is deductible, there are gaps around a delicate topic, gaps that are quite possibly due to the novelty of the phenomenon in the public scene. Then, in such a context, the academic contribution is of importance.

The article postulates the importance of the analysis of a technology applied to privacy, to the most everyday environments, that is, homes. Because exercising powerful technological devices in this area has relevant social repercussions, not susceptible to oversight or investigative omission. Moreover, the marked novelty of this proposal implies its necessary study and debate. This article seeks to demonstrate whether home automation can become devices of control and domination against human beings. And more specifically if the objectification and mutilation of thought is part of this technological proposal, entailing of course repercussions for social relations.

The paper analyzes smart homes not from Putnam, but based on an author of Frankfurtian tradition, Max Horkheimer. His concept of instrumental reason is taken up. And this author is rescued



among other reasons due to his constant concern for the evolution of enlightened reason and its products, among which contemporary technology can be mentioned. That is, we use this critical proposal but we also refer to the necessary theoretical adjacencies (ideas such as autonomy, freedom, etc.).

The text is structured based on this *hypothesis*: *Smarthomes*, as an exercise of instrumental reason, generate the blurring of the modern subject, because they dilute their freedom and autonomy. This seeks to explain how instrumental rationality is deployed in the technological invention of smart homes.

2-Methodology

This article represents a dialogue between so-called "social studies on science and technology" and philosophy. On the first area we have that Kreimer (2017) defends its interdisciplinary character and speaks of several historical stages, with different academic discussions. There is talk of a "third moment", of a contemporary nature, in which: "Thus arise various questions to public decision-making, to the role of experts, and, more generally, to the relations between science and democracy" (Kreimer, 2017: 146). We make the proviso that we are dealing with a technological invention, and not with the field of science.

So here it's about visualizing the link between technology and politics. More specifically, we seek to establish the concept of smart homes, appealing to a broad characterization of the invention. We then proceed to interpret this concept from a particular framework.

According to the Royal Academy of Language (2020) the word interpret alludes to: "Explain actions, sayings or events that can be understood in different ways" (Royal Academy of Language, 2020: para. 3). We do the above by asking ourselves if the smarthome is incardined within the instrumental reason, and, therefore, if it blurs modern subjectivity. Note the reading of a technological topic from critical political philosophy and not from other possible approaches (phenomenology, analytical epistemology, etc.).



3-Smart home concept

We first establish the definition of rigor. Smart homes are: "... the introduction of enhanced monitoring and control functionality into homes" [...] the introduction of improved monitoring and functionality control within households] (Hargreaves, and Wilson, 2017: 1). Then the term refers to the surveillance of the domestic environment and the implementation of actions as a result of the² inputs obtained, in search of improving the operability of the home.

According to Liu *et.al.* (2016), cited by Chabot *et.al.* (2019), the home automation house is equipped with smart technology, which is integrated into the residence. It contains sensors inside the home, which transmit data directly to smartphones. In addition to sensors, capable of monitoring housing conditions (which includes the use of video), the device allows to control the internal environment, for example, by closing doors or regulating the temperature (Chabot *et.al.*, 2019).

The support of the narrated operations is constituted by the internet, through a computational system that consists of a central computer, thus allowing the previous actions and also surveillance (Smart Houses Design and Construction, 2016). In this way, the data of the house becomes the domain of that computer. Smarthome (2016) points out the possibility of controlling the house from the *tablet* laptop *smartphone* and Smart TV also to open the garage gate through a GPS system incorporated into the car.

Different authors postulate the benefits of the Internet of Things and home automation. Chabot *et.al.* (2019), citing Rantz *et.al.* (2015) and Liu *et.al.* (2016), establish that smart homes are used by older adults with chronic diseases and disabilities, people with permanent care requirements. Azimi *et.al.* (2017) affirm the usefulness of the Internet of Things to monitor the proper use of medicines, nutrition and the safety of the elderly. Marques *et.al.* (2019), point out its possible use for a better control of energy expenditure, and its usefulness in order to optimize the quality of life.

² The work of Hargreaves, and Wilson, (2017)) focuses on users' perceptions and market demands, but is grim as far as the proposal in the of smart homes. (Translation by Mtro. Juan Enrique Escobedo Guzmán, in collaboration with the editorial team of the magazine Sincronía.).



Although different companies converge on most aspects of the smart home, there are also nuances that should be pointed out. According to Keydome (2016) this type of housing allows to know minute details, for example, if a key is open or if a person fell inside the property. A smart home, according to Smart Homes Design and Construction (2016), allows a remote interaction of unlimited possibilities of the owner with respect to his residence, makes it possible to open and close windows, electric gates and doors, turn off and on lights and appliances, turn on the heating, see and hear what happens in the house.³

Chabot *et.al.* (2019) set limitations on smart homes. In this regard, they affirm that they can create dependence for older adults, and incur gaps between the capabilities of these people and the demands of the technological package (Chabot *et.al.*, 2019). They also point out the need for the user's consent to the collection of their private data, and to guarantee the privacy of such information (Chabot *et.al.*, 2019).

The latter is described as a system vulnerability. Marques *et.al.* (2019) analyze the devices of the internet of things typical of the health sector. They argue that, even when improved programs have been devised, privacy and security remain challenges for such systems (Marques *et.al.*, 2019). This is due to the connected handling of data, precisely: "Network communications are exposed against network security attacks because of the broadcast nature of the transmission medium" (Marques *et.al.*, 2019: 18). The case acquires a peremptory character within the argumentation. Thus, Marques ⁴*et.al.* (2019) urge the adoption of laws to protect privacy within the framework of the aforementioned technologies.

Smarthome (2016) points out the concept of *home automation*, this consists of the application of technology in a home to control and automate its systems, contributing to its management with

³ Several of the companies mentioned work in Latin American countries. So, smart homes are already part of the reality of Latin America, they respond to the characteristics of their social formations, particularly to the perceived need for security.

⁴ (Translation by Mtro. Juan Enrique Escobedo Guzmán, in collaboration with the editorial team of the magazine Sincronía.).



actions such as energy saving, comfort and security, through efficient communication between the user and the device. The use of artificial intelligence would change the system:

In contrast with usual automation solutions, such intelligent technologies would allow constant monitoring of the environment and its residents and learning from their behavior. Then this knowledge can be used to update environment control rules automatically, and even predict the future changes and events, providing services for the users without intervention (or with very minimal) from the latter.

[In contrast to the usual automated solutions, such smart technologies would allow constant monitoring of the environment and its residents, and learning of their behavior. This knowledge can then be used to automatically update environmental control rules, and even predict future events and changes, providing services for users without the intervention (or minimal intervention) of the users (Maskeliūnas, Damaševičius, and Segal, 2019: 11).⁵]

Thus we see how the conditions of control of the environment and people can be narrowed much more than at present and reach levels of almost perfection. Because once again we see the binomial of knowing the home space, anticipating its phenomena and manipulating it in great detail.

According to D-Link (2016) the surveillance system has cameras to monitor the entry of anyone. The system described by Casas Inteligentes Diseño y Construcción (2016) includes a connection with the microwave, so, in case of intentional breakage of the power and telephone cables, said link allows communication with a security company, the police and the owner of the property.

The company Keydome (2016) for its part offers a "unified" security system, controls sensors, security cameras, and a method of alarms capable of monitoring the home online or locally. It is also possible to have an automation procedure, integrable to the security procedure, so if a subject moves to a bedroom, a coordinated response detects it and turns on the lights, or, if someone enters the bedroom, an alert is issued to the cell phone of the interested party.

⁵ (Translation by Mtro. Juan Enrique Escobedo Guzmán, in collaboration with the editorial team of the magazine Sincronía.).



To maximize the advantages, GSMA and KRC Research (2016) propose that the different services and devices must be willing to interact with each other, giving an inter-operability and collaboration between companies from different sectors, because in addition to smart homes we talk about the "internet of things", the remote command of the different devices. Having described the system of smart homes, we went on to outline the idea of instrumental reason.

4-Concept of instrumental reason in Max Horkheimer

What was the reason before industrial society? Horkheimer (1969) tells us that for centuries a different vision prevailed. Thus, he affirms:

Such a vision affirmed the existence of reason as a force contained not only in the individual consciousness, but also in the objective world: in the relations between men and between social classes, in social institutions, in nature and its manifestations. Great philosophical systems, such as those of Plato and Aristotle, scholasticism and German idealism, were based on an objective theory of reason. It aspired to develop a vast system or hierarchy of all that is, including man and his ends. The degree of rationality of a man's life could be determined according to his harmony with that wholeness (Horkheimer, 1969: 16).

We see here a rationality according to which the different spheres of human existence can be thought, as well as their relationships, and even more, the purposes of actions. The latter was of great importance, it exceeded the evaluation of the media; the exercise of reason led, at its highest level, to agree the objective order of the rational, as understood by philosophy, with the existence of the human being, locating in this self-preservation and interest (Horkheimer, 1969). Then we deduce an integrative and non-exhaustive reason to the subjective. Subjective reason, in contrast to the above, refers exclusively to the link between an object or concept with an end, and not to the concept or object itself (Horkheimer, 1969). Thus thoughts or things serve for something else, banishing the idea of rational goals themselves and the discussion of the superiority of one goal over others according



to reason (Horkheimer, 1969). Subjective reason is known as instrumental reason and on such a concept theoretical developments are vast.⁶

In the work *Critique of Instrumental Reason* it is proposed:

La razón aparece totalmente sujeta al proceso social. Su valor operativo, el papel que desempeña en el dominio sobre los hombres y la naturaleza, ha sido convertido en criterio exclusivo. Las nociones se redujeron a síntesis de síntomas comunes a varios ejemplares (Horkheimer, 1969, p. 32).

There is then a hyper-simplification of reason, a mutilated thought. It represents the current trends of society. It is a reason concerned more with the *how* than the *why*, reduced to mere procedure (Nateras, 2009). According to Germain (2019) modern scientific rationality is cultivated under the purpose of its potential use. Horkheimer (2000) points out that science, by anticipating the phenomena of reality through the natural causal law, is able to pass to the control of the environment and also of social contexts, controlling the world seems to be the course. In another work the term instrumental reason is characterized:

Any use that goes beyond the technical synthesis of factual data, which serves as an aid, is excised as an ultimate imprint of superstition. Notions have become rationalized means, offering no resistance, saving labor. It is as if thinking itself has been reduced to the level of industrial processes by submitting to an exact plan; said briefly, as if it had become a fixed component of production (Horkheimer, 1969: 32).

Thus, reason is reduced to a set of operations tending to achieve objectives, it has as a strict scenario a hyper-empirical world, any thinking different from the efficiency of that system of procedures is alien to instrumental reason, in account of the question of why, because only operations matter. Slijepčević (2019), after returning to Horkheimer and Adorno (2002), argues that in this way of

⁶ The instrumental reason constitutes the concept to be used in the writing. For clarifying purposes, we must say that objective reason is not idealized by Horkheimer (1969) and in this regard establishes criticisms. Without embargo a detailed analysis of objective reason escapes the purposes of this article.



thinking reason becomes irrational. Fuchs (2019) converges with the above when he states that such rationality lowers human consciousness to the qualities of the machine. Then we deduce the undermining of reason through an exercise of it that cuts it off and impoverishes it to a great degree, leaving in force only those specific aspects of a procedural nature.

Not in vain does Horkheimer (2000) indicate that industrial society creates permanently alert individuals, oriented to the immediately practical, always and everywhere ready with the same vigilance. The work *Traditional Theory and Critical Theory*, in its annex called *Reason and Self-Preservation*, also points out that this way of reasoning dissociates the operative from the valorative, reason and science have no link with the value judgment (Horkheimer, 2000). Scientific work does not think of directions, but only correct procedures to achieve ends. About such a phenomenon we have: "Science lacks self-reflection to know the social motives that drive it to one side, for example, to the Moon, and not to the good of humanity" (Horkheimer, 1976: 56-57). Thus, if everything is restricted to the vicissitudes of the procedure, we cannot reflect on ends.

Here one can notice the criticism of a scientific task incapable of thinking about the ends of its activity, and given this shortcoming, it is prey to the prevailing currents in industrial society. Consequently, the world produced by this pragmatic reason is one where everything serves something and must be useful to be recognized (Galafassi, 2004). According to Zhang (2013) the Industrial Revolution prioritized the instrument over the end, advocating efficiency, precision and objectivity; but the richness of the meanings of the world of life diminished.

In this regard, the reading of López (2000) can be pointed out, this author argues to avoid judgment on the values and purposes of action as a sign of this rationality. It is also characteristic to focus on pure media management, limiting the ability to apprehend and determine the meaning of actions, a trait of consciousness (López, 2000). Instrumental reason is related to the lowering of ethics as work, since research based on this perspective ignores moral aspects because they look indifferently at the purposes (Shimizu, 2017). Applying a term by Marcuse (1991), we can see how human thinking becomes one-dimensional.



The consultation of the work of Hinkelammert (2003) also clarifies the idea, instrumental reason is concerned only with the efficiency and effectiveness of the medium-end calculation, the consequences of the end, once realized, for nature and for society do not matter to this type of thought. And according to Slijepčević (2019), who comments on Horkheimer and Adorno (2002), the scientific vision of the world, which dominates the West, understands nature mechanically, and this has repercussions on the destruction of the environment.

In addition, some scholars of Frankfurtian thought indicate the transmutation of means into ends for the case of industrial society (Galafassi, 2004); they also point out that subjects do not care about understanding the purpose (Nateras, 2009). For his part, Zhang (2013) warns that the expansion of this rationality can develop oppressive forces and lead to the crisis of modernity itself. According to De Genaro (2017) in this type of reason the subjects are transformed into gears without understanding or mastering the process, to which they nevertheless adapt under the unfounded assumption of being imposed on it. What is described resembles the Marxist concept of false consciousness and has psychosocial effects of broad impact.

The instrumental world exerts effects on human collectivities. Subjects adapt to responding to signals, needing directives, and being obedient because their need for orders grows; all this lead to a progressive loss of spontaneous reactions (Horkheimer, 1970). Because if the ends no longer matter and concern only the operational being, the product constitutes a ductile subject, unable to determine neither the meaning nor the purpose of its actions, let alone propose paths. In the end, human subjectivity is threatened by the imposition of impersonal social forces, these forces reconceptualize us according to the dictates of the technical apparatuses of control (Germain, 2019). Thus we can affirm the existence of processes of dehumanization in contemporary industrial society, which denote the type of individual necessary for their ends: the submissive and efficient official, not the creative or critical being.

Due to the above, the industrial machine resembles its creator, human beings adapt to proposed problems, but each one becomes more solitary, since the machine can work and calculate, but not identify with others or have occurrences (Horkheimer, 1970). All of the above brings with it a



predictable, moldable subject, unable to assert himself in social relations. This process shows a profound socio-political imprint:

Despite all their activity, men become more passive; despite all their mastery of nature, they become more powerless in the face of society and themselves. Society itself works with a view to the atomized state of the masses, desirable for dictators (Horkheimer, 1970: 30).

So we have that industrial society generates instrumental human beings, and from their adaptation to the administered world to the docile follow-up of a dictatorship there is not much distance. These human beings, under such a yoke, are not autonomous. Here is evident that principle of the Frankfurt School according to which modernity produces the mechanisms responsible for its own annihilation. Thus, regarding the diagnosis of these thinkers, we have: "They maintained that the modern project is driven by the imperative to realise evermore effective means of controlling the physical and social environments" (Germain, 2019: 128). The promise of autonomy has been extinguished in a social universe such as the one described here, where domination reigns and not the sovereignty of the subjects.⁷

And this goes against the pillars of the modern proposal. Thus for Locke (2005) men have the possibility of disposing of their lives and their goods as they see fit, in this lies freedom, otherwise slavery occurs. But a social apparatus such as the one described undermines this free initiative with respect to the existences of individuals, because its formative process does not grant men to plan their lives or give them direction.

Also because in Kant (1963) the subjects give themselves the universal moral law thanks to reason and not to the sensitive influences, when the latter happens we lack an autonomous subject. Contextualizing modern autonomy to our days, it is valid to quote Hortal (2002), for whom this concept alludes to the capacity and prerogative of each subject to project their life according to their desires, ideals and self-interests, without interference.

⁷ (Translation by Mtro. Juan Enrique Escobedo Guzmán, in collaboration with the editorial team of the magazine Sincronía.).



The thought of the Frankfurt School, in its critical use of Kant, applies the blurring of autonomy as the fruit of submission to the powers of the world. These may already be explicitly authoritarian states (regardless of their ideological sign), or already the more subtle mechanisms of late capitalist industrial society (mass society, material comfort without freedom, culture industry, etc.).

Faced with a panorama with the above qualities, critical theory has the task of expressing the generally unexpressed, of pointing out the costs of progress, the factors that, as a result of the process, destroy even the concept of autonomous subject (Horkheimer, 1976). The perspective implies an arduous challenge for the times to come:

In the end, if some catastrophe does not destroy life completely, there will be a fully managed, automated society that will function in a stupendous way, in which the individual can certainly live without material worries, but it is no longer of all importance (Horkheimer, 1976: 65).

We have here the topic of the blurring of the modern subject, understood as particularity. According to Fuchs (2019) attempts to objectify consciousness bring with them the manipulation of human beings. According to Fromm (2002) it is a feature of totalitarian society that the individual is devoid of his value. Like bricks of a building, human beings only mold, curtailing their human potentialities.

According to López (2000) a basic element of the Frankfurt School is the theme of thinking about the whole. Here it is added that this criterion does allow the analysis of the contexts, the purposes (present and potential) and the consequences (contemporary and possible) of modern projects. Not in vain are themes like these represent cardinal aspects of Freudo-Marxism. This question is answered in the following section.

Is there a way out of these challenges? In his work *Critique of Instrumental Reason*, Horkheimer (1969) postulates some possible solutions, among these that reason seeks truth and not dominion, as well as conciliation with nature. In another book, this author invites an encompassing and integral rationality that goes far beyond mere procedure: "To be true, science must conduct itself critically for itself and for the society it produces" (Horkheimer, 1976: 57). In this sense, Horkheimer (1976) invites



us to think about the motives that drive one or another line of research, because according to this analyst critical theory arose from ideas related to a better world, directing his work in front of society and in front of science. We therefore see implicit the theme of totality.

It also speaks of the rescue of the autonomy of individuals, in such a way that the autonomy of the subject is preserved for as many human beings as possible, thus being possible the development of their forces (Horkheimer, 1976). In a clear way it is stated: "We want to preserve as long as possible the internal independence and internal satisfaction of the human individual, and with it the opportunity of his solidarity with other human beings" (Horkheimer, 1976: 66). Then we deduce critical theory as a proposal for the rescue of subjectivity in the face of political and social apparatus.

5-Smart homes as an instrumental reason

Smart homes are almost total control of the private environment. This is made possible by technological advances. Different reflections can be made in this regard. First we must say that although the system provides amenities (close attention to the elderly, energy saving, among others), the "price to pay" is extremely high, it is equivalent to the impairment of privacy, with the respective concoitances.

And impaired privacy, as well as individuals manipulable by the anticipation of their actions, are factors that threaten even individual freedoms. That the internet has access to private lives already allows the elucidation of personality tendencies, tastes, etc., in a process in which the user does not attend the market as a subject who deliberates with free will, but under manipulation by knowing him in advance and being prosecuted through mechanisms and assumptions that he does not know. Because with this information many companies can impose on the subject what they want to sell him, so that he does not buy the desired or required good or follow his own interests, but those of others. Given the close knowledge of personality, by means of technological mechanisms such as the one described here (and others), such a process would be possible to achieve.

And, even more, let us remember that, if artificial intelligence is incorporated into these systems, the anticipation of the human subject will be almost total, of course this proposal will be the



death of ideas such as autonomy and freedom. Because applying these creations will greatly favor the improvement of the described dominations.

Thus we can argue a critique in a modern key. For the thought of John Locke (2005) individual freedom becomes the greatest good, whoever loses it is at the mercy of his dominator, he can dispose at will of the life and property of that individual. Following such reasoning, we can establish a hierarchy in which individual freedoms are first, even with respect to health and comfort. However, smart homes involve giving up the former in pursuit of the latter. This can lead to despotism.

In Horkheimer's terms, this renunciation of freedoms in exchange for material goods represents a classic sign of industrial society. Subjects dominate nature (referred here to the domestic environment), even within the framework of their own organism (conquest of better health), but lose control over their lives. Because their stocks become integrally monitored and influenced by third parties, in addition to all that this can bring as a consequence. All this appears as the result of instrumental rationality, in its denial of the human subject.

Secondly, home automation and the Internet of Things are established as cases of a type of rationality destined to the domination of the world and its objects, that eagerness is inscribed in modernity. Here the interest lies in the tight control of the private sphere. Indeed, those modern cravings to control everything seem to reach a new episode with smart homes and the internet of things.

The domination of nature and social environments reaches a higher rank. Now specific people, individuals if you will, can appropriate this instrumental rationality and apply it in their daily lives. Therefore, we are in the presence of a new rung of the imposition of modern rationality, the user has the ability to become a little "Big Brother" of his own home. Thus, a macro process, such as the exercise of instrumental reason in societies, now has a homely scope and places certain subjects (who control the system from the spaces outside the house) in a position of power never seen before.⁸

⁸ End of the novel 1984, from George Orwell.



Moreover, the idea of close surveillance and constant manipulation of the environment would lead to the naturalization of a rationality: full control of space is valid. So, this is an idea that can be extrapolated at the political level, because if a citizen, for the sake of the alleged safeguard, practices this concept, it can be thought that a State will act in the same way. Also to comply with so-called powers and common interests, the state apparatus can implement a technology of unrestricted access and close concern in everyday life. This projection of having not only smart homes but also "smart cities" is already visualized by Internet of Things theorists: "As mentioned above, the concept of cognitive technologies for smart environments goes far beyond the home environment and covers smart cities and public IoT services" [As mentioned above, the concept of cognitive technologies for smart environments and involves cities and IoT services (the internet of things) intelligent] (Maskeliūnas, Damaševičius, and Segal 2019: 7). This throws up possibilities for complete control of both homes and entire cities.⁹

But an action of such a guise implies the saturation of civil society in charge of the State, a practice contrary to certain modern precepts, for example, the autonomy and freedom of the subjects. Once again, modernity itself makes the death of its own premises and promises. With smart homes, an example of the modern and indesligible duo of knowing and manipulating, knowledge as a source of power and control, in this case of residence, but with possible extensions and even more problematic effects, is ostensible. This gives way to thinking about other issues.

This tendency to domination of the home is inscribed as a typical example of instrumentalization of reason, only the effectiveness of technological goods to achieve the task of control matters. Because at no time is the possibility that the owner may not be an ideal subject to have such a high share of power valued, being necessary a prior evaluation of this person; it deprives the procedural, and of course, the commercial. The home automation project is not interested in these topics, it only cares about efficiency and meeting the demands of the potential buyer: security,

⁹ (Translation by Mtro. Juan Enrique Escobedo Guzmán, in collaboration with the editorial team of the magazine Sincronía.).



energy saving and manipulation of the private environment. With very marked exceptions, the literature consulted reveals this type of exercise.

An issue of great critical relevance concerns the possibilities of domination of other human beings, since the owner has the power of the smart home system. With these devices you have very wide possibilities to monitor other people, for example, your children, with or without their consent or knowledge. You can also exercise close control over your actions, for example, by not allowing them to leave or enter the property, turning off or turning on appliances, etc.

In this way, the aforementioned devices can give way to the commission of dominations. Means capable of guaranteeing the security of the home in the face of the external world, may well bring with it insecurity in the face of the internal world of the house. Think of a family where the father beats his children, or the granddaughter assaults the grandmother psychologically. But the consequences of the ¹⁰*smarthome* for the inhabitants of the house, once the system is consolidated, do not matter from this type of rationality.

The aspect of providing household data to a central computer, together with the established about the collaboration between different companies in the sector, have the effect of unrestricted access of others to the private environment, this allows them to know the subjects residing in those houses, elucidate patterns of daily interaction and even anticipate their behaviors. Promises of confidentiality are relativized. First because there is talk of cooperation between different companies in the field, which would share information (the private is made public).

In addition, because only the services of one company, among all those analyzed here, indicate such a confidentiality clause, in the others that precept is not mentioned. And, thirdly, because the rights to confidentiality have been violated in recent years, and here is at stake not a phone call or an email, but much more abundant and exploitable data for multiple purposes.

The above decants in the possibility of control by the vigilant companies with respect to the lives of the people, talk about issues of consumption and advertising, with such reliable information

¹⁰ This fact should not be neglected, particularly in a context such as that of Latin America, where domestic violence has very large figures.



the door is opened to foresee shopping habits, then providing the market with first-hand data, this in turn can take the information to purify its offer and influence more successfully. Such an exercise undermines the autonomy of the consumer, as it allows its manipulation. Another possibility of control, also related to access to daily patterns of interaction, is to be able to analyze the psychosocial dynamics of the inhabitants of each house, not to mention the ability to access the political affinities of entire populations.

Why does violating the private world undermine freedom and autonomy? Because remember that the process works in binomial, data from the personal environment is acquired and proceeds accordingly. The behaviors are foreseen and action is taken accordingly. This process stifles spontaneity, which at least for the Frankfurt School is a trait of the autonomous subject. Also because the technological apparatus would tend to flood subjects with stimuli, they would become mere passive receivers of comforts, subjects that "only respond to signals", paraphrasing Horkheimer (1970). It is legitimate to say such an argument given the obvious trends in the technological world, which refine its mechanisms.

In addition, if autonomy lies in constituting our lives as we see fit, we need to do so by having at least an environment where we can freely reflect on it, that scenario is constituted by private life. For his part, Peña (2001) argues that autonomy is often considered as one of the dimensions of privacy. But here we rather raise privacy as one of the guarantors of autonomy. If the private world is attacked, the autonomous subjects are distorted.

To exercise autonomy we need to think, which supposes the necessary conditions for the sake of the exercise of reason. According to Bernal (2014) to be autonomous we must be able to choose between different options, and those options must be informed and free of coercion and excessive or undue influences. Thus, if the scenario where we think how to direct our lives is subject to manipulations, ergo autonomy is blurred. To this is added the possible dominance of individuals, for example, in a violent family.

The topic of possible uses of information becomes more serious if one remembers the basic tool of the system: the internet, an extremely permeable medium where the protection and



encirclement of data flows are violated, for example, due to *Hackers*. Thus we can remember that wireless technology shows shortcomings in the issue of security: "In spite of the soaring interest for the analysis and exploitation of pervasive communities in the wireless domain, in regard to privacy very little has been achieved" [Despite the growing interest in the analysis and exploitation of the communities present in the wireless domain, very little has been achieved in relation to privacy] (Bilogrevic *et.al.* 2012: 371). Despite progress in other areas, the protection of records remains weak.¹¹

Moreover, in the field of this paper the problem is clearly corroborated. According to Vargas (July 7, 2016), the so-called "Internet of Things" (IoT) has received criticism given its security shortcomings. The company Hewlett-Packard conducted a study in 2015, the analysis examined ten IoT devices, including TVs, power outlets, alarms, door locks and webcams; the findings revealed that 90% of the artifacts collected personal information from their users, 70% connected to unencrypted internet services that could be easily accessible to cybercriminals, and 80% showed privacy deficiencies (Vargas, July 7, 2016). Nothing connected to the internet is totally safe (Naughton, December 6, 2015).

The Internet of Things has a close link with smart homes, the second device can be included in the first, both use the connection to the web as a fundamental tool. GSMA and KRC Research (2016) twinned both types of service. Then, the situation exposed would transform, even more, the private sphere into a public sphere, accessible to third parties, even without the consent of the subjects.

But will there really be an appetite for data from individuals and families in the contemporary world? Yes of course. At least from the field of politics we have clear evidence. First, the Patriot Act of the Bush Administration. And in the Latin American context, remember that Venezuela, Cuba and Nicaragua are under dictatorial regimes.

The case of a country once reputed to be respectful of human rights serves as a fourth example. Thus, in Costa Rica, the Executive Branch, contrary to the law and institutions, collected private information from citizens without their consent and without a judge's order, by issuing a law

¹¹ (Translation by Mtro. Juan Enrique Escobedo Guzmán, in collaboration with the editorial team of the magazine Sincronía.).



according to which: "... the UPAD will also be given access to confidential information held by public institutions when required" (No. 41996-MP-MIDEPLAN, 2019). These events even generated raids and criminal lawsuits against the President (Ruiz, February 29, 2020).

An invention such as home automation, being voluntary, grants broad powers to states and legitimizes espionage. With the permission of the subjects themselves, the espionage to which they will be subjected becomes naturalized, while denouncing the fact will lose relevance. We see how instrumental reason paves the way for authoritarian exercises. The issue of renouncing to think about the contexts, purposes and repercussions of technology facilitates the process.

Smarthomes contribute to the blurring of the modern subject, dilute autonomy and freedom. The private world is annulled by the technological apparatus, and with this the principles stated are not viable. We corroborate with the case of smart homes that instrumental reason generates ductile societies, attachable to political projects of a close dominion over the subjects.

6-Conclusions

First, we must refer to the argumentative richness that can be developed in the analysis. Indeed, the study of technological issues from critical income offers broad veins of theoretical development. Because of the above, we advocate continuing this thoughtful work.¹²

Because neither science nor technology, by themselves, will not bring us a better world (as Comte promised), nor do they resolve debates about the desirable and the detestable of human practices, that constitutes the task of human subjects. Nor do they prevent postulating the existence of thresholds that, if exceeded, connect with "worse worlds"¹³. Demonstrating the possibilities of domination through technological goods thus has great relevance¹⁴. Because if we are critical we can

¹² Think of the study of proposals such as transhumanism, or the developments of artificial intelligence or biotechnology.

¹³ Genetic experimentation with embryos and the cloning of human beings represent a scientific-technological possibility that, at least for the scientific world in its great majority, can (but you should not) develop.

¹⁴ In this regard we have: "Left unexamined, the technological drive to integrate reality will continue to render humanity redundant, or otherwise challenge our humanity as never before" [Left unsuspected, the technological motivation to integrate reality will continue to make humanity redundant, or if not challenge our humanity like never before.] (Germain,



pre-see and prevent the risks and possible perverse uses of science and technology¹⁵. Otherwise, the blind apology of these areas of knowledge has the potential to contribute to new totalitarianisms.¹⁶

Thus, given the results of this writing, we must say that home automation contains potential dangers. It is more "the bad" than "the good." A cardinal element is the invasion of the private world by connecting the home with the internet. A house under constant monitoring and domination represents a space where all confidential information ceases to be private. This in turn undermines autonomy, a modern value.

Smart homes are framed within a type of rationality whose principle lies in the domination of the world. They imply a deployment of such rationality to the home space, being instituted in "Big Brother" is now possible within the domestic sphere. In other words, home automation is another chapter of instrumental reason.

This in turn contains a derived problem, consists in the rationalization of a close social control of spaces, giving for example immense power to the State over the daily life of citizens. Such legitimization would operate by analogy. The market, on the other hand, risks being lived as an environment where individuals are manipulated, instead of being a scenario of free, autonomous decisions.

These technologies are also an example of the instrumental reason for the zero importance given to the subjectivity of potential customers, and to the possible vicissitudes of these. As this is a topic apart from the efficiency of the system to achieve internal tasks, it is ignored. It can also be pointed out the possibility on the part of the owner to use the smart home to dominate the other

2019: 133) (Translation by Mtro. Juan Enrique Escobedo Guzmán, in collaboration with the editorial team of the magazine Sincronía.). In this way, to the relevance of debating scientific and technological productions because they are of philosophical interest, the social and historical relevance of this exercise is joined, given the potential repercussions of this discussion.

¹⁵ The world of science fiction has warned, since past centuries, of the dangers of a barbaric science and technology. A recent work is the film *Ex – Machina* of McDonald and Reich (2015).

¹⁶ This in turn gives way to other questions, concerning the history of ideas. ¿Was there philosophical criticism of science and technology in the times before the totalitarianisms of the twentieth century? If it existed, ¿What did these questions raise?



inhabitants of the residence, which is part of the type of rationality studied, that is, the domain of nature and the subjects.

Home automation can operate in an instrumental rational way because it allows access to private interaction patterns, which could lead to a study of behavioral patterns. In turn, this information shows the possibility of predicting behaviors and manipulating them, for example, commercially. Such an aspect is possible given the passage from private to public data, this in turn is aggravated due to the use of the internet, a permeable medium.

The blurring of the human subject is verified as a result of *smarthomes*, which in the end are one more case of instrumental reason. Individuals become predictable entities, moldable in the gear of industrial society. Thus, the desires, interests and needs will no longer be of the individual, but of the administered world in which he is located. After ceding freedom and autonomy to the scientific-technological apparatus, little will remain of the modern promises based on these two political concepts. In addition, authoritarianism will have immense control resources.

Perhaps, after the political debate that is approaching in Latin America, a conventional treatment will be derived. Smart homes may be arbitrated by ethical-scientific committees to elucidate what their scope and limits should be. Also such a committee would give way to establish when a family, given its qualities, should not have a home automation residence. However, can institutions avoid all the potential negative consequences of smart homes? Will it denounce its chances of domination?

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