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**AN ANALYSIS OF THE PHENOMENON OF TECHNOLOGY IN HERBERT
MARCUSE'S PHILOSOPHY**

**An enquiry into the socio-determination of technology in Herbert Marcuse from
Determinism towards a constructive understanding of the technological
phenomena**

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of the degree MPhil Philosophy in the Faculty of Arts

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Abstract

The technological mediation of human action leads us to reflect on the role of technology in social and political change, and to develop a philosophical evaluation of their mutual influence. Our behaviours are highly technologically mediated such that denying the role of technology in social change is not only a difficult task, but is probably impossible.

In the last decade, this topic has been analysed by many philosophers who have approached the phenomenon of technology either through a negative lens that disregards its positive impact, or in a more constructive way investigating its social determination and therefore seeing it as an agent of social transformation.

This thesis analyses the work of Herbert Marcuse and his critical analysis of contemporary society in contrast to technological application in the capitalist system. Marcuse is one of the first philosophers of the 20th century to attempt to cross the bridge from a pessimistic perspective to a more systematic view of technology focusing on the socio-determination of its functionality.

However, despite Marcuse's effort in determining technological phenomena, he seems to provide two different assessments, making his work appear ambivalent when approaching the problem of technology. Comparing two of his most important essays, *One-Dimensional Man* (1964) and *An Essay on Liberation* (1969), reveals a lack of parallels. Unlike the former work, which emphasises the disruptive power of technology to enhance exploitation in capitalism, the latter essay considers technical artefacts as sources of liberation from the capitalist mode of production.

Hence, this research seeks to restore consistency to Marcuse's view of technology, create a more homogeneous perspective, and build a more exhaustive theory of technology between these two antithetic works.

The thesis's methodology combines pragmatic and hermeneutic analysis to help build the unitary vision this project aims to establish. By extending the boundaries of hermeneutics beyond exclusively human affairs in technology, it will participate as a mediator of human practices. Furthermore, pragmatism allows to overcome the dualism between technological impacts and social influence.

I declare that the work in this dissertation was carried out in accordance with the requirements of the University's *Regulations and Code of Practice for Research Degree Programmes* and that it has not been submitted for any other academic award. Except where indicated by specific reference in the text, the work is the candidate's own work. Work done in collaboration with, or with the assistance of, others, is indicated as such. Any views expressed in the dissertation are those of the author.

SIGNED: DATE: 31st May, 2023

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Introduction

The political and cultural influence of Herbert Marcuse (1898-1979) has made him a role model for students and social movements worldwide. He spent his entire life advocating critical thinking against capitalism and any form of alienation and exploitation in mass society. Through his philosophy, he attempted to describe the class society in detail and raise awareness of the socio-determination of every dynamic of control, especially via technology, by which capitalism represses subjectivity, consciousness and social progress.

His social theory permeates every aspect of his analysis, especially his interpretation of the Hegelian and Marxist Dialectics, which comprise the basis of his philosophy. In Marcuse's Dialectic, socio-historical components define the lens through which he examines the world. For instance, he applied this approach when analysing Hegel's rationality, highlighting its social aspects. In addition, Marcuse underlines the historical and social process behind Marx's historical materialism, which appears not to be a scientific system but a social and historical theory against any philosophical dogma. Labour, capitalism and alienation are also investigated as social-phenomena created by socio-historic and economic conditions. Marcuse shows the direct relationship between human relations and modes of production so that only a substantial social change can overturn the neglected social conditions of mass production. Moreover, he emphasises how social and cultural premises influence human instincts, which are biologically and socially determined. This matter is evident in the debate for and against Freud's view of how civilisation developed. In disagreement with Freud, who saw the price of civilisation in repression and its discomfort in neurosis, Marcuse believes that it is not civilisation as such that it is repressive, but this particular type of civilisation, noticing the historical and social origins of repression and the human psyche.

These examples demonstrate that social constructivism is Marcuse's primary method for approaching knowledge.

Nevertheless, Marcuse does not adopt the same stance when it comes to describing technology and he is ambivalent in defining it as a tool of oppression which escapes any social influence in *One-Dimensional Man*, or as a tool of liberation used by society to improve people's lives in *An Essay on Liberation*. Consequently, Marcuse fails to demonstrate the social-component of technology,

presenting in *One-Dimensional Man* the idea that technology has an inner rationality independent of social requirements.

According to *One-Dimensional Man*, technology's inner essence has replaced subjectivity with a one-dimensional technical world, imposing instrumentality and efficiency as new values in society. On the other hand, *An Essay on Liberation*, published four years later in 1969, completely reverses this conception by presenting technology as the basis for social emancipation, promoting self-gratification, de-proletarianisation and non-instrumental activity, which aligns with the demand for liberation from the capitalist system.

Nonetheless, the social component, which seemed to disappear in *One Dimensional Man*, reappears in the latter essay. Marcuse reveals that it is not the machines or technologies that are repressive, but their masters' intentions that determine and transfer their power, logic and rationality to material objects. Technical artefacts are always socially charged. They do not interfere with society as external entities but regulate the mode of production in accordance with social goals. Hence, Marcuse concludes that technology in a different social setting can be a great vehicle of liberation (Marcuse, 1969).

Historical realities may justify the changes in his thinking between 1964 and 1969, but philosophically speaking, the ambivalence is challenging to explain. Marcuse witnessed student movements and protests against the system between the two publications, demonstrating that social change is possible and that technology can embed social attitudes. He understands that technology shapes social goals, and that changing the latter can affect the response of material objects. However, there is a remarkable lack of parallels between the main concepts expressed in each essay, which erodes the coherence shown in his work and suggests that technological development has little to do with social behaviours.

This thesis aims to highlight the dialectical need to overcome the differences. Contrary to *One Dimensional Man*, I will argue that the negative impacts of technical artefacts on society (thesis) are not caused by technological rationality (antithesis), but rather by social actors who intrinsically shape and influence how technology functions (synthesis). The thesis will also strengthen the notion of technology as a social and relational phenomenon that transcends materiality and embraces the human realm.

Although this is already present in Marcuse, it is not very clearly explained due to the continuous influence of a deterministic view of technology view. When dealing with it, Marcuse looks at technical artefacts as part of a self-affirming system, independent from society's intentions, in such

a way that any issue appears to arise from the machine's inner logic instead of society's. This can suggest that humans must accept its rationality, making it impossible to escape, and blames technology rather than human action for any issues caused by the technological application.

As I introduce Marcuse's philosophy in the first chapter, the thesis will emphasise the importance of the sociological component throughout his study of Marx, Hegel and Freud, who are at the core of his interpretation of contemporary society. Furthermore, to illustrate the antithesis when discussing technology, the last two paragraphs of the first section will describe and compare the essays *One Dimensional Man* and *On the Essay on Liberation*. As we discuss this scenario, we will see the development of a qualitative progression from a pessimistic perspective to a more optimistic one. As a result, my objective here is to provide a comprehensive overview of his central concepts to better understand capitalism's peculiarities and lay the groundwork for the analysis of technology in the second chapter.

The second chapter examines Marcuse's ambivalent approach and introduces philosopher of technology Andrew Feenberg as the provider of a plausible philosophical explanation and solution. As one of the best interpretations of Marcuse's works, Feenberg's analysis will represent the link between the two Marcuse conceptions, building the missing parallels to create a continuous line in his description of the technology.

Hence, I will extend the socio-historical component of technology, already expressed in *An Essay on Liberation*, in *One-Dimensional Man*, demolishing the idea that technology is autonomous and deterministic, transforming society irreversibly and rendering it incapable of human control.

In addition – based on Feenberg's observation in the paragraph *Biases and Paradoxes of Technology* – the dissertation will illustrate how Marcuse's ambivalence stems from ontological errors resulting from ordinary language and common sense, which lead to a misunderstanding of technological phenomena. The thesis emphasises this justification by remarking on two theories mentioned by Feenberg which, in his view, shape the vision of technology as a destiny beyond human control and participation. Moreover, the pessimistic view of technology as dangerous is bound up with the combination of both approaches, which limits any optimistic assessment. In fact, while the former theory considers technology a neutral instrument, eager to accomplish its user's intents, the latter pays attention to the technological essence and rationality deemed to be adverse against people's life. As Feenberg points out, misunderstanding the phenomenon of technology stems from the substantive theory's tendency to mistakenly link the lack of values in a political, social and economic dimension to the instrument itself, and making that connection believing that values lie within technological artefacts, rather than focusing on the social aspects that make

technology biased. In other words, the discriminatory factors of hyper-industrial society are not embedded in technology per se, but in the anti-democratic values that determine technological development (Feenberg, 2010).

Despite Marcuse's intuition that social factors govern technologies, he sometimes confuses technological operations with their context. Therefore, he fails to realise that technological artefacts are always contextualised in a specific social and historical dimension. Based on the belief that things are independent of us, this interpretation excludes the assumption that technical artefacts are created with social meanings that determine their intrinsic instrumentality. In fact, what makes technologies hegemonical is not the instrument itself but its application, which usually reflects the hegemony of a system that ignores true social values and human needs. Although this opinion was present in Marcuse, he had to emphasise further that the goals technology embodies are determined by ruling class choices, not by technological intentionality or instrumentality per se.

In addition, the *Ten Paradoxes of Technology* (Feenberg, 2010) provide a framework for deconstructing the notion that technical mechanisms are phenomena that society cannot influence, since they are conceptualised within a particular cultural setting and embody the socio-political dynamics practised by social actors. Since technological artefacts are considered part of a new human recognition, I will illustrate *the paradox of the parts and the whole* to deny the illusion that technologies are simple occurrences. As a result, the adverse effects of technology, such as commodification, consumption, social control and manipulation, are not the consequences of its instrumentality, but instead of the cultural context in which it operates. This will steer the implication that technology has moved from being a power producer to a result of it. Therefore, in this scenario, the project of human technological control – described in *One-Dimensional Man* – is intrinsically paradoxical since humanity is no longer subject to technology. They are, in fact, part of the goals and intentions established by the society, which is free to choose their influence.

Having established the roots of Marcuse's misleading approach, the paragraph *Incorporating technology into human agency*, provides a means of finding a deeper explanation of the entangled hierarchy of society and technology. I will do so by presenting the *Theory of Mediation* (2005) by Peter Paul Verbeek and introducing the concept of technological agency in collaboration with human agency to extend humans' intention concretely in the world. Although Marcuse never mentioned the concept of agency in relation to technology, the idea can be deduced from his critical thinking, which permits the assumption that technology mediates human intentions.

The notion of agency is essential to deepen the sociological dimension in the philosophical investigation of technology. In order to understand the sociological relevance of technology,

avoiding Marcuse' externalist view, it is then necessary to reflect on this concept, arguing, however that technologies are not social agents in themselves, but only in relation to humans, such that the loss of the relationship between the two domains undermines the existence of the agency itself.

This thesis will conclude with a discussion of the importance of pragmatism in understanding better the transactional relationship between society and technology and the reciprocal relationship in which these domains shape one another.

An analysis of the rationale behind the methodology and the historical context

The project's methodology combines pragmatic and hermeneutic analysis, already used by the philosopher mentioned, as a guide for human action. By extending hermeneutics' boundaries beyond exclusively human affairs in technology (Ihde, 1998), it will act as a mediator of human practices, contributing to a deeper understanding of humankind and his place in the world (Verbeek, 2003).

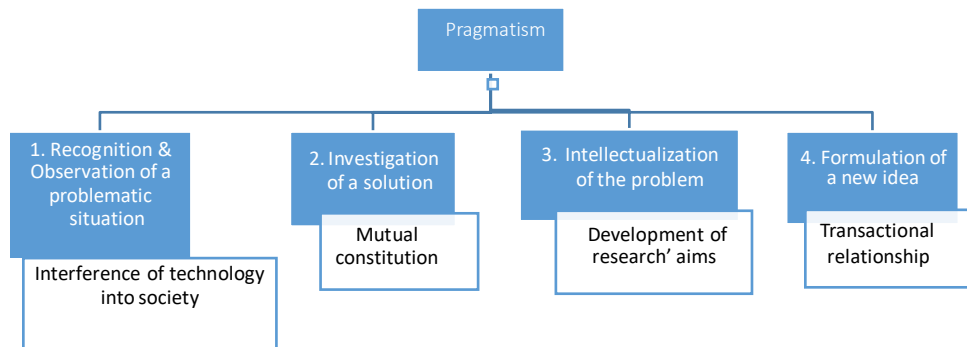
As a result of hermeneutics, users interpret the world through their experience: they interpret technical artefacts in order to extrapolate the meaning of their mediation.

A thermometer serves as a tool for interpreting climate temperature, for instance. In these circumstances, the relationship between technology and human beings requires interpretation because human agents perceive the world through technical artefacts. Thus, the technologies we use determine how we perceive and interpret reality, while also defining our being in and approach to the world.

Furthermore, the contribution of pragmatism is essential in understanding how the responsibility of social action is interchangeable with technology, and to accompany technological development more acceptably. Its task is to go beyond philosophical dualism in recognising the relation among the world-society-technology (Dewey, 2015). Pragmatism is a fact-finding exercise planned in the present with an eye to the future in order to anticipate technological developments in the name of 'continuous planning' (Abbagnano, 2020).

The unitary vision that this project seeks to establish emphasizes the importance of human beings as the only ones able to reduce the binomial between society and technological phenomenon. In light of the interpretation of technical functionality, this method is the only way we can prevent society from succumbing to the imbalance of technological progress.

Therefore, the pragmatic investigation will comprise four evolutionary steps, each aiming to analyse problems and hypotheses. Based on the observed problem (technology inference in society), I will propose as a solution the transactional relationship between society and technology. As intermediate steps, I will explore the mutual constitution and intellectualize the problem, where the dichotomy between society and technology is not ideological but pragmatic.



The pragmatic vision aimed at constructing a democratic perspective of technology. The concept of democracy - as understood by Dewey and Feenberg later - is analysed by pragmatism, especially when it comes to displaying how technology must be used and how social values are embedded. Therefore, democracy is seen from an ethical perspective, which allows everyone to approach the problem without discrimination. Therefore, democracy is a state of living that provides everyone with the chance to take part in the development of society and the influence of technology for the benefit of all. Pragmatism defines democracy as citizens cultivating the same interests in search of truth. For a pragmatist, democracy is a kind of 'social research' in which technology and society are aspects of the same study.

In Dewey's words: "A democratic society requires an awareness of the consequences of a joint activity and the distinctive consistency of the elements involved in its production" (Dewey, 1927, 353).

As a result, these two methods – hermeneutics and pragmatism – are closely linked. The pragmatic dimension, concerning human actions and practices, cannot exist without the hermeneutical dimension, concerning human interpretations and perceptions. Combining these two aspects will eliminate the idea that technologies are a source of power, since technology will be seen as a mediator of human actions that are not determined by technology, but are co-shaped by it.

Throughout the thesis, the historical context of Marcuse's philosophy and his approach to technology is framed by the events that took place in the Western world during the 1960s. As I will

show later Marcuse's theoretical approach to technological phenomena changed between 1964 and 1968. The events of 1968, which were primarily a year of protests and revolutions aimed at dismantling the social system of the day, justified Marcuse's theoretical switch. Besides, the direct political protest of the 1960s led Marcuse to believe that the contradiction within capitalism was more evident, giving him hope that social change would be possible. He became confident of the existence of transformative forces not integrated within the system, which could alter the capitalist mode of production. Furthermore, the Prague Spring in Eastern Europe in 1968 was evidence of the need to decentralise administrative authority and hasten the process of de-Stalinisation.

Nonetheless, other historical events affect other parts of the world that have not been discussed because they are not relevant to the purpose of this work. For instance, the 1950s and 60s were the years of Decolonialism, which sought to dismantle the legacies of colonialism in various aspects of life, including knowledge, culture, politics and social structures. Decolonialism is rooted in the historical context of European colonial expansion, which left lasting effects on colonised societies.

However, both colonial and colonised countries differ regarding applying capitalist features and, consequently, have experienced liberation struggles differently. In fact, the struggles in the colonies have brought nationalism movements rather than conditions of a free world market. Additionally, Western capital monopoly is neither willing nor able to capitalise on the underdeveloped parts of the world. Thus, poor in capital, undeveloped countries are destined to become poorer in every respect.

The majority of underdeveloped nations still need an industry that can grow and prosper by protecting itself from foreign competition. As a result, they are at odds with their own traditional ruling classes as they operate within the conditions of the capitalist world market. The more undeveloped countries supply the capitalist world with resources, the less they receive from it and the less able they are to capitalise themselves and increase the general demand from developed nations. Hence, the state of the underdeveloped part of the world testifies to capitalism's inability to extend its mode of production into a world system.

Therefore, because of the impossibility of capitalism being applied in underdeveloped countries with the same features as the West, in this thesis, I decided to consider the historical background that has influenced Marcuse and his philosophy most. In the same way, developed countries can better understand technology's impact and its use for capitalistic purposes.

Outcomes & Contributions for further research

In determining what can be pursued further in future research and the contribution this research can give, we must first examine what has been achieved by this study.

The result is to close the gap between technological understanding and society by building a unified vision and showing how the common denominator between society and technology is the agency they share, given the collective good.

Three key insights will enhance future knowledge in this field.

To begin with, it will be crucial to understand that society and technology are not separate monoliths, but rather the result of a two-way alliance that defines and links them mutually (Barrotta, 2016). It will be necessary to deepen this alliance, especially for the future developments of technology and its interference in society and human action.

Technological development will lead us to consider social and ethical implications we have never considered before. Therefore, we should envisage the prospective ethical, political and social impact by considering some possible premises. The impact of technology on knowledge acquisition and dissemination raises questions about truth, trust, and the reliability of information. Hence, philosophical inquiries into epistemology can help us understand how technology shapes our understanding of reality.

As a second step, we should examine how ethics might evolve and develop new value theories that incorporate technology for the first time. Ethical frameworks should promote fairness and equity in the development and deployment of technology by addressing bias, discrimination, and ensuring access to technological benefits for all are ethical imperatives.

Therefore, it could be argued that technology is interchangeable with society's moral character. As discussed in the second chapter, the concept of transaction relation already envisages this interchangeability. The transitive property that binds world-society-technology highlights the moral relationship that coexists in all three components: if society is the bearer of values that charge both the world and technological devices with new meanings, then society and technology are not only co-dependent but even morally interchangeable to the point that the non-existence of the former would lead to the exclusion of a technological morality and vice versa (Verbeek, 2011).

As a result, we need to reconsider humankind's ontological and moral primacy over technological artefacts, given that all meaningful social changes are not technology's goals but effects triggered by social will. Due to technology's existential dependence on the human hand, it is the latter that defines technical functions for achieving society's objectives.

The so-called *Gestalt Turn* on the use of technology in society will also make it possible to outline technological designs' moral obligation and liability to clarify the implicit influence of technological devices, starting from the individual's freedom of choice to accept its influence.

It is, therefore, necessary to consider new concepts of responsibility, freedom, and justice.. In fact, it is desirable to redirect technological development towards humanitarian and altruistic frontiers in a society based on technologies (Feenberg, 1991).

Finally, this will lead the research to ponder about a new definition of freedom. A shift from technological action to social will, can help us to understand the concept of freedom behind the technologically mediated character of our lives. This might be the keystone for a society aspiring to reconcile autonomy and material well-being within a democratic vision of technology, intended not as a political technique, but as a human ideal of social participation. Freedom is not liberation from technology but rather a process of conscious attachment that entrusts the individual's intention to give it up (*Libertarian paternalism*, Sunstein and Thaler, 2009).

In conclusion, we cannot ignore the environmental and political consequences of technological development. The ethical implications of technological advancements on the environment, including resource depletion and electronic waste issues, need to be carefully considered to promote sustainable and responsible technical practices. From a political point of view, political structures and regulatory frameworks must adapt to the rapid pace of technological change. Governments must develop policies fostering innovation while safeguarding public interests and addressing potential risks. In addition, international collaboration and governance are essential, given the global nature of technology. Thus, political efforts should focus on establishing ethical standards, norms, and agreements to address challenges that transcend national borders.

In summary, the future relationship between society and technology requires a holistic approach that involves philosophical reflection, ethical deliberation, and responsive political action. Collaboration among philosophers, ethicists, policymakers, technologists, and the broader public is essential to ensure that technological advancements align with human values and contribute positively to societal well-being.

Reading Herbert Marcuse

The thesis presents the work of Herbert Marcuse and his approach to capitalist society. In his work *One-Dimensional Man*, he critiques modern industrial society, especially exploring the profound impact of advanced capitalism on individuals and their incapacity of critical thinking and resistance. However, the nature of the essay has developed controversial readings and approaches. Accordingly, the debated that the thesis illustrates is based on a controversial understanding of Marcuse held by many readers, primarily in his radical critique of contemporary Western society, as well as in his analysis of how advanced industrial societies manipulate and conform people for their own benefit. The reading perpetuated by the thesis is the work of leading critics of Marcuse, including Alasdair Macintyre, Andrew Feenberg, and Douglas Kellner, who, while great interpreters of his work, point out its empirical and theoretical flaws. Macintyre, for example, criticizes the pessimistic, deterministic view alongside vague descriptions of social change (Macintyre, 1970). As Kellner points out, Marcuse's notion of liberation through Eros is ambiguous and requires a high level of abstraction, especially when arguing that a more liberated and instinctual expression of human desires can result in social transformation without, however, giving any examples of how this should happen. Moreover, *One-Dimensional Man* concerns itself with the absence of revolutionary consciousness. However, as Paul Mattick (1972) suggested, "the absence of a revolutionary consciousness is not the absence of intelligence" (Mattick, 1972, 68). In fact, it may be possible, even without revolution, to develop a class consciousness that would break with capitalist behaviour.

Finally, controversial readings have developed about Marcuse view of technology since the publication of *One-Dimensional Man*. He argued that the advancement of technology and the rationalisation of society led to a form of social control that was more subtle and insidious than traditional forms of oppression. He was critical of what he termed "technological rationality," where technological progress did not necessarily lead to greater human freedom but contributed to a conformist and homogenised society.

This position generally stems from the idea that technological development transcends the capitalist mode of production and creates a totalitarian productive apparatus. However, according to Feenberg (1991), the capitalist dynamic of production is not the same as technological development, which, in turn, is not associated with a capitalistic essence. Therefore, contrary to Marcuse, technology does not determine capitalism.

Furthermore, this dissertation uses the controversial reading about technology as an example of a widespread view of technology that exists independently of Marcuse, which the thesis aims to critique, not interpret.

Philosophers have indeed approached technology discussions with different lenses, mostly with negative interpretations. In *Das Kapital* (1867), Marx argues about the concept of domination and alienation related to the impacts of machines on the proletariat's essence and lifestyle; Heidegger also developed a strong critique in his book *Questioning Technology* (1954). He emphasizes that technological objects are tools for use and are constructed and operated by humans, but the essence of technology is quite different; it is a way of revealing the world around us, which is independent of human intentions. Stiegler (2015), for instance, comments on the disruptive force of technology, which can distort any form of cognitive attention.

In common with these philosophers - and not mentioned - is their acceptance of deterministic technology views. This ideology (Determinism) stems from a traditional dualist position – strengthened by Heidegger – in which objects, once separate from their subjects, have a different essence and normativity (Feenberg, 2010).

As I will demonstrate later, this point of view is based on two theories: Instrumentalism and Substantivism. According to both opinions, technology is autonomous, incapable of being controlled by humans and with an inner intentionality which irreversibly transforms society through efficiency and a self-affirming system, making it impossible to escape. According to this description, technology is an external tool ready to accomplish its user's intents. Nonetheless, this vision is contestable because what seems to be an autonomous essence of technology is socially determined and contextualized in a particular cultural and historical setting. Thus, Marcuse and other philosophers sometimes confuse technological operations with their contexts. In advanced industrial societies, the technical apparatus is not neutral or isolated from the social or political context but equally susceptible to social and political intent because technology depends on society's desires. In response to this general approach to technology, which included the philosophers mentioned before - including Marcuse - we need to disregard all the literature that claims the existence of inner technological rationality in material artefacts that create exploitation and alienation. These outcomes are preserved not by technology but by socio-economic strategies that maintain the social hierarchy. Hegemony is, therefore, embodied in technology by human agency, and it is not necessarily inherent in technology (Feenberg, 1991).

CHAPTER ONE

Herbert Marcuse is one of the most influential philosophers of the 20th century for his critique of advanced industrial society under capitalism, and for the ideological pragmatic liberation movements influenced by his analysis. His arguments are more than mere political theories, but social and moral forces directed to redeeming civilization's conditions which have become increasingly degraded because of the capitalist mode of existence.

In perceiving the alienating tendencies of modern industrial society, Marcuse merges Marx, Hegel and Freud to build a clear and broader interpretation of contemporary events and history. To understand Hegel's contribution, we will focus mainly on his dialectic describing the unity of Subjects and Objects, the importance of rationality and the meaning of alienation to find out what is genuine and valuable but missing from our society. Meanwhile, to comprehend the pillars of capitalism and the logic of exploitation, I will concentrate on Marxist dialectics, historical materialism and the theory behind the proletarian revolution. Finally, Freud is an essential key to understanding the psychoanalytic aspect of the repression this system causes. involves.

I will summarise Marcuse's socio-political and philosophical thoughts in three main areas: the contribution of Hegel and Marx in developing his social theory, Freud's influence, Marcuse's critique and recasting of Freud to promote the transformation within society, and his ideal of an alternative free society. Thus, this chapter seeks to understand Marcuse's thoughts in order to better interpret the phenomenon of technology critically.

1.0 Hegel's influence: the unity of Subjects and Objects and the meaning of Alienation

For Marcuse, the revival of Hegelian philosophy is vital to building a critique of modern technological society. He sees the Hegelian Dialectic as the first attempt to analyse the antagonistic structure of industrial society. This methodology, in fact, describes the movement of social history in thesis, antithesis and synthesis, and illustrates the contradiction between a given state (thesis) versus its antithesis. Karl Marx 1818-1843 adapted this idea in his writings when mentioning the struggle and the revolution between capitalists and the proletariat, which would resolve in a higher condition, namely the victory of the proletariat over the capitalist class with the advent of socialism/communism (synthesis). In his book *Reason and Revolution* (1941), Marcuse, fascinated by the Hegelian tripartite vision of history, reworks it as the *power of negative thinking*. This

concept refers to the negation of the current repressive aspects of our societies in order to make possible a transformation of the world that can reveal the truth of things. The concept of negation is at the core of Marxian and Hegelian dialectics which say that facts presented as common sense do not represent the truth but rather the obfuscation of reality. Therefore, the deprivation of life and human needs under capitalism does not reflect what the real world should be. The solution is to transcend the capitalist determination of the human condition, negating the present situation, and look to expecting more from life. This idea is what Marcuse calls *negative philosophy*, or the negation of the negation (Marcuse, 1954).

This thinking forms the foundations of Marxist and Hegelian dialectics, which applies the negation to the working categories that do not satisfy human nature and its needs. The negative, then, can be overcome with the abolition of alienated work and private property, denying the appropriation of human nature and the subjugation of the proletariat.

This controversial notion is important for Marcuse's interpretation of the famous Hegelian quote 'What is rational is real and what is real is rational.' He expresses himself in this way:

Real does not mean everything that exists, but what is in accordance with the principles of reason [...] for example, the state becomes a reality only when it is based on the effective possibilities of men and allows their full development. Any form of the initial state to this is not yet rational and, consequently, not yet real (Marcuse, 1954: 11).

Marcuse reconsiders Hegel's thoughts on the relationship between reality and reason. According to him, this unity is essential to overcome the dualism between them and to reconcile, under the supervision of reason, thesis and antithesis, subject and object, essence and appearance. For Marcuse – as for Hegel – the dialectic is the unity of opposites reachable by the reason, which acquires an ethical and epistemological value. It is a fundamental tool that provides consciousness, understands reality in its totality, reveals the essence of present conditions and finally examines and interprets the facts. Likewise, reason reconciles humanity's aspiration to a new reality against every form of economic, technical or scientific materiality.

Although he recognises its importance, Marcuse sees a limitation in the Hegelian Dialectic, especially in the last stage. Marcuse thus rejects it, moving closer to Marx's approach. In Hegel, the *Dialectic* ends with the idea of the Absolute and the synthesis of two forces (subject and object) rather than with the struggle and the victory of one of them as envisaged by Marx. Another of Marcuse's objections refers to the sphere where the *Dialectic* takes place: while Marx moved into the realm of necessity, Hegel moved into the realm of the Spirit (Marcuse, 1954). By doing so, the Hegelian conception of *Dialectic* cannot be reduced to social and political aspects but rather goes beyond the historical condition towards a purely ontological and theoretical dimension. The demystification of Hegelian *Dialectic* led Marx to overturn Hegelian philosophy and transform his own idealistic solution into *social theory*. This will initiate the transition from philosophy to social action, political consciousness and the revolution as an act of total human transformation.

Despite the fact that Hegel influenced Marx in elaborating the principles of his philosophy, Marx departed from Hegel, feeling it necessary to move into the realm of history. Marx considers this to be the only way to give a clear idea of the antagonism between object/subject (capitalists/proletarians), and the conflict arising from the division of world production into these actors. Along with defining the object's features, Hegel finds in the objectification its main characteristic. This objectification usually refers to the process of the Absolute Spirit approaching something different, transforming both the latter and the former into a new entity. Thus, objectification can turn into reification and alienation when the object entirely submits to the subject, namely when the capitalists entirely absorb the proletariat because of the alienating labour conditions. However, the way Hegel and Marx interpret this problem changes. For Marx, it is not work per se which is alienating, but rather wage labour under which the proletarian is separated and subjected by his activity. According to Marx, objectification in work is not pathological, but a physiological condition of human beings who fulfil their existence by passing through the dialectic stages (Marx, 1983). What makes the situation critical in capitalist society is the increase of objectification which results in alienation, where work crystallizes in the economic dimension, losing its original meaning in human existence. As both Marx and Marcuse note, objectification intensifies in capitalist society due to its material conditions. Consequently, Marxist Dialectic aims is to free labour and man [sic] from the scenario described above. As Marx himself hopes (e.g. in *The Communist Manifesto*, 1848), the communist revolution cannot be resolved solely by changing economic relations, but requires the overall transformation of human potential.

From this perspective, a concrete example of what Marx's Dialectic theorizes is that in capitalist society there is continuous transition between unity and struggle – before unity can be attained

again – within the production and consumption process. These two actions are closely connected as they represent the *unity of opposites* because they mutually shape each other as well as construction and destruction, oppressed and oppressor, capitalists and proletarians.

When interpreting Hegel and Marx, Marcuse's aim is to link their dialectics and the ontological criteria with social, political and historical aspects. Since the unity of subject and object are essential for the Dialectic to happen, Marcuse applies it everywhere, including it not only in the social process, as Marx did, but in the social relations people maintain among themselves and with their environment. His Dialectic is the combination of Hegel's ontological view and Marx's epistemological framework, brought together into the social theory of historical development. Moreover, it loses its absolute nature, radical in Hegel and Marx, as it is replaced by a social perspective which includes elements of free will that characterise human existence and modern civilization (Lind, 2016).

The dialectic notion implies that subject and object do not exist in isolation, but are combined and transformed into an ever-changing identity without any discontinuity due to the mutual interaction between the society and the world.

Therefore, since the present work aims to understand the relationship between humankind and the technological world, mutual interrelation must be considered regarding technology. This concept is not new in the history of philosophy and has already been dealt by the philosophers who inspired Marcuse. In Hegel, for instance, the idea of mutual interrelation reflects the mutual relation between object and subject, possible due to absolute reason, the idea of cooperative society in Marx, and the connection between the realm of necessity and freedom in Marcuse.

In these examples, the dialectic method shares the same intent of reaching a totality that unifies the realm of human existence within history. This is one of the reasons Marcusian Dialectic is historical, so as to allow history to come into being: 'It is not an ontological given; it is simply the adequate method for comprehending and at the same time transcending the existing reality. It is a dialectic where human action and human praxis have all important functions' (Lind, 2016: 234).

Furthermore, Marcuse discovers the basis for the new concept of one-dimensionality which is rooted in the difference between subject and object seen in Hegel's philosophy. Whereas the former is at once a *being-itself* and a *being-for-itself* (Marcuse, 1954), independent and free from the object, the object is externally controlled by the subject. However, their relation is overturned in the one-dimensional society where the object controls and takes over the subject, which loses its

freedom, self-consciousness and self-determination. Hegel considered labour to be the essence of humanity, since it is through labour that people recognise themselves as individuals. However, according to Marcuse, Hegel did not realise that social intentions continuously affect the essence of labour. As long as labour is carried out under the dominion of capital, the worker's labour will be alienated and subjected to the will of someone else. In this way, labour becomes a source of enslavement rather than self-realisation and liberation (Kellner, 1984).

Thereby, the workers are involved in a society which does not allow any space for rational activities and thus undergo a fundamental alienation of a socio-economic nature. Furthermore, Marcuse analyses the Hegelian concept of work from a philosophical perspective to demonstrate the limitations and mystifications of the nature of *Arbeit's* notion pursued by economic science. While economists view work as an economic activity aimed at satisfying specific material needs, according to Marcuse, work is not a particular economic activity (goods production) but rather the existential way of living in the world (the self-production of existence). More precisely, men become what they are through work, acquiring their being and making the world their world.

Marcuse thus appears to be an exponent of Hegelian-Marxism, claiming that Marx has freed Hegel's potential revolutionary spirit. Therefore, examining Marcuse's approach to Marxian philosophy in further detail will be the topic of the next section.

1.1 Marx's influence: the historical determination of society

The peculiar situation in which Marcuse found himself, made him reconsider Marxism as an efficient theory for political and social changes. The application of Marx concepts is vital, in fact, for the comprehension and the transformation of contemporary society, with the hope of planning a political action able to unify theory and practice. For this reason, Marxism is presented as part of a historical process and social transformation, adopted by Marcuse to provide a concrete philosophy capable of handling current issues. Consequently, he analyses Marx's *Manuscripts* (1844) and their main concepts – related to labour, private property, alienation and capitalism – to develop his theory of advanced capitalism. He demonstrates its negative effects on society to increase the consciousness and the need for a new man [sic], sensibility and relationships.

For Marcuse, Marxism is not a scientific system of truth, neither a dogma nor an absolute knowledge. However, it can be considered a theory of social and historical action needing to be

freed from degeneration into an arid scientific orthodoxy (Kellner, 1984). Since Marcuse recognises it as a critique of bourgeois society and a theory of the proletarian revolution, he wishes to apply it to the era he is living in: he is certain that historical development will confirm the practical efficiency of his view, and he believes that liberation and revolution are historical forces leading to social and political transformation.

This idea is historically and socially grounded, aiming to make existence more authentic. It is evident that Marcuse is committed to the Marxian theory of revolution at this stage, where the core aspect of his philosophy is the revolutionary struggle to bring about a transformation of social reality. Marx lived in a time when the philosophical interests shown by Hegel a few years earlier influenced various historical trends. These focused mostly on finding the social implication of the connection between private property and alienation, accumulation of capital and impoverishment, mechanical labour and loss of introspection, and finally on the enhancement of the middle class.

In fact, Hegelian idealism influences the social structure elaborated by Marx and, as a result, the dialectic evolves into the historical concreteness of social life where the notion of the negative acquires a new meaning in terms of the fulfilment of human capability and potential. Marx's solution does not stop with the metaphysical field but becomes a historical method and condition in which what was history for Hegel becomes prehistory for Marx. Certainly, establishing a new situation will not be the final stage of the dialectical process, which will continually evolve even after the completion of true history. In Marx, this process can never be determined as the struggle will consequently always assume different forms, where reason and revolution will be helpful for the theoretical foundation and empirical study of social change.

1.1.1 From Marx to the foundation of Marcuse's Dialectic

Marcuse conceived the world as formed by historical movements reflecting the negation of the given socio-political situation. He gives the name *dialectic of civilization* (Marcuse, 1954) to the process that describes the world as composed of historical trends where productivity and destruction work together, and where only revolution can be seen as the absolute solution to overcoming their struggle. This method is preferred, since its aim is rescuing and reaching progressive tendencies which can preserve the harmony of theory and praxis in history. Hence, his Dialectic resembles Marx's, where the thesis is fights the antithesis and where social oppression can be historically defeated to open more social and political possibilities. Since every event is conditioned by socio-

historical causes, philosophy itself must be as practical and concrete as possible, reflecting the dialectical structure of the method. In fact, in analysing the alienation and dehumanization of specific institutions, Marcuse understood that the passage to human liberation is a transformation that can be realized only by the dialectic method in historical materialism.

To Marcuse, history has a dialectical structure, and the essence of human nature is historical since it is influenced by both the biological system and the socio-economic conditions. Since the conditions of human life are historically developed and affected, a change in human nature is possible as long as a change in historical conditions is admitted. This is mainly why Marcuse stresses the concept of labour, going beyond technical and political problems. In analysing it, Marcuse matches both Marx's pragmatic conception of labour and Hegel's idea of liberation, asserting that it is an ontological concept which has implications in how we perceive freedom. Therefore, the concept of labour needs to be included in the realm of freedom: 'A concept that conceptualizes the being of human existence itself and as such' (Kellner, 1984: 89). For him, in fact, this notion has an ontological role as a category of human existence that concerns human potential, shapes our social being and is essential to establishing the relation between humankind and the world.

However, the alienation promoted by capitalist society affects the workers' conditions, who feel alienated from their activity, i.e. work. Therefore, human alienation in capitalist society represents the alienation of labour, the reification of human existence and social conditions that restrict men's realization. Alienation, as a form of objectification, is indeed a historical phenomenon derived precisely from socio-economic conditions, and it exploits human nature and relations and makes them tools for material purposes. Since it is not a natural phenomenon but a product created by society, instrumental labour can be abolished when capitalism, as a system of production, is completely overcome to allow a new productive system, and, therefore, a social change, without facing a regression to previous social conditions.

As a consequence, the abolition of labour, as an instrumental activity, towards a new form of productive practise, becomes an important historical moment freeing humanity from instrumental chains. Thus, the solution to alienation – already envisaged by Marx – will create a new productive system in which labour is a self-activity achievable with the minimum resources (Marcuse, 1954).

Although Marcuse takes inspiration from Marx, their visions regarding the possibility of abolishing labour via the creation of a non-instrumental activity diverge when applying this theory to reality. For Marx, realizing new social relations with a series of measures might sound utopian; for Marcuse, it is not unrealistic, considering that new socio-economic development is historically feasible. In *Capital*, for instance, Marx seems to retreat from the idea of abolishing labour as it

cannot end the mode of production because some of its characteristics and the instrumental features of modern technology cannot be altered, preventing humans from any form of non-instrumental activity.

Thus, efficiency, timing and optimization could not change considerably as the importance of technology depends on how it is a means to an end. This leads Marx to reinstate the Aristotelian dualism between two kinds of human activity that Marcuse wants to overcome: a means to an end – activity that serves as a tool to achieve a purpose – and an activity performed for itself – non-instrumental activity/free-activity. These approaches reflect two different realms – the realm of freedom and the realm of necessity– which, in turn, re-establish a dualism that strengthens Marx's position. However, while for Marx the two realms never reconcile, Marcuse aspires to unite them into the same realm where means of production and human relations can live in harmony and where an activity performed for itself is predominant. In fact, Marcuse moves away from the Marxian view because, according to him, Marx repudiated the optimistic idea that exploited labour can be overcome because of his lack of trust in technological progress and technological development in general.

The notion of the end of utopia implies the need for at least discussing a new definition of socialism. The discussion would be based on the question whether the Marxian theory of socialism does not belong to a now obsolete stage of the development of the productive forces. This is most clearly expressed, in my opinion, in the famous distinction between the realm of freedom and the realm of necessity. According to this distinction, the realm of necessity can only be conceived and can only exist beyond the realm of necessity. This distinction implies that the realm of necessity will really remain a realm of necessity in the sense of the realm of alienated labour. That means, as Marx says, that all that can take place within this realm is having labour organized as rationally as possible and reduced as much as possible. But it remains labour within the realm of necessity and as such, unfree. I believe that one of the new possibilities, which form the qualitative difference between the free and unfree society, is exactly that of finding the realm of freedom within the realm of necessity in labour and not only beyond labour (Zilbersheid, 2008: 415).

In principle, Marcuse admits that reaching better conditions parallel with vital needs, desires, human potentialities, and labour as self-activity is possible. Furthermore, Marcuse, as well as Marx, does not condemn productivity per se, although the current industrial economic system makes productivity inhuman and mechanical, and excludes any individuality. However, not all forms of work are repressive and exploitative; according to Marcuse, there are forms of work that can promote human liberation and satisfaction and respond to the principle of the realm of freedom. For Marcuse, for instance, an alternative activity is *play*,

With a view to saving time and space for the development of individuality outside the inevitably repressive work world. Play, as principle of civilization, implies not the transformation of labour but its complete subordination to the freely evolving potentialities of man and nature. The idea of play now reveals its full distance from the value of productiveness and performance: play is unproductive and useless precisely because it cancels the repressive and exploitative traits of labour and leisure (Marcuse, 1972: 190).

Nonetheless, in contrast with Marcuse, Marx would have rejected this concept because playing cannot be conceived as a material activity; this makes the transformation of labour in play impossible. Yet, the abolition of industry does not mean the abolition of highly developed technological production; it refers to the abolition of instrumental technological production. It means turning production into technologically developed non-instrumental activity (Zilbersheid, 2022: 409).

Technology can be involved in creative activities and respond to self-gratification rather than performance or efficiency where instrumental technology will transform production in artistic activity. Speaking of social relations, the abolition of this system is crucial for a radical social change to happen; in fact, in being involved in a non-instrumental production of existence, humans can see themselves as an end and so capable of establishing true relations with themselves and each other.

These considerations might open new ways of approaching technology as a new important mediator between labour, as a non-instrumental activity, and freedom; between what was Utopian for Marx, namely the abolition of labour, and the realm of reality for Marcuse, namely life as a combination of work and play, or the realms of necessity and freedom (Cooper, 2015).

Marx would have been more optimistic about social transformation if he had envisaged technological progress as a new productive domain capable of merging leisure and work. This determination of technology shows the difference between Marx and Marcuse. The latter sees technology as a source of hope for the future. However, he is aware that selfish interests can steer technological developments in other directions. As a result, Marcuse shows that exploitation depends not solely on technology but on a type of instrumental production resulting from distinct economic and political activities. This can turn the consideration of technology, which can be used to support society's transformation, which Marcuse predicts in *Essay on Liberation*: 'technique would tend to become art, and art would tend to form reality' (Marcuse, 1969: 24).

1.2 Marcuse and Freud: the psychoanalytic aspect of repression

Having studied Marx, Marcuse argues that fulfilling vital human needs requires both historical and biological influence, aware that both come together to improve labour conditions. In addition, to turn the abolition of labour into a free/artistic activity, Marcuse employs Freud to replace an activity intended to be a means to an end – exploited labour – with an activity that can positively alter the system of production. Although Marx did not conceive of the connection between free activity and play, Marcuse describes non-instrumental activity as a transformation into a sensuous activity and, therefore, as the manifestation of sexual instinct (Marcuse, 1966). As human relations and the mode of production are directly proportional, a change in the former can affect the latter, transforming how humans perceive and build their relationships. Hence, it will be a sensuous relationship going beyond the production process towards a common struggle against exploitation and instinctive repression.

Moreover, analysing Freud will help Marcuse to gain a better understanding of capitalist domination and its social impact on the human psyche. Therefore, he will investigate the political implications further, turning his studies into a political matter. In fact, Freud explains the meaning of 'domination' in psychoanalysis – taken by Marcuse – to better understand how the capitalist mode of production and relations perform. Thus, Marcuse examines the socio-historical connotation

of instincts and the concept of freedom in order to evaluate what dominance involves. Freedom is a problematic notion to define as it becomes a form of domination in the capitalist system: it is socially derived according to the rules of the economic/political system in which it develops and, therefore, is historically affected as it embodies the environment of exploitation in which it grows.

As a result, people living in this setting are unconsciously absorbed into the climate of exploitation. In Marcuse's words:

The individual reproduces on the deepest level, in his instinctual structure, the values and behaviour patterns serve to maintain domination, while domination becomes increasingly less autonomous, less personal, more objective, and universal. What actually dominates is the economic, political and cultural apparatus, which has become an indivisible unity constructed by social labour. (Marcuse, 1970: 3)

Furthermore, technology also allows domination in these circumstances. Marcuse continues as follows:

In the advanced industrial society, the technological impact increases the automatization of rigid behaviours, where repressive forces submit and control the individual's psyche using leisure activities as a form of de-privatization. Once a specific morality is firmly established as a norm of social behaviour, it is not only introjected, but it also operates as a norm of organic behaviour: the organism receives and reacts to certain stimuli and ignores and repels others in accord with the introjected morality [...] the need for possessing, consuming has become a biological need in a sense just defined. (Marcuse, 1969: 14)

Thus, control is no longer embodied by the parental figures but rather by the ideological apparatus that socially regulates behaviour. The father, who was the authoritarian model par excellence for Freud, is replaced by the authority of a system that continually promotes instinctual repression as an

organic component of the exploiting civilization (Marcuse, 1966). For Marcuse, the tyranny of civilization has reached the inner dimension of man [sic], becoming inner tyranny and alienating man [sic] so as to follow civilization's instruction: 'he not only acquiesces to his misery, but he willingly seeks it' (Marcuse, 1966: 305). A possible solution to the free movement of human drives, however, can be found with the revolution, as Marcuse correctly observed; if the brakes on Eros are removed, the bourgeois principle of work will face crisis, since human beings will be unable to cope with the tension between working and enjoyment. As a result, this would jeopardize the entire capitalist system as it would be impossible for the squalor and injustice of working relationships to fit into the social system of the bourgeois world. Furthermore, these considerations help Marcuse to rethink the concept of revolution in terms of happiness, considering that if the latter can break into the domination of instincts, it will be easier to fulfil 'the necessities of existence.

These ideas are organically taken and developed in *Eros and Civilization* (1955), a work typical of Marcuse where the primary purpose, although Marx's name is never made explicit, is to bring Freudian theory into line with Marxism's categories. Marcuse's method in this operation is to analyse some critical Freudian concepts to show how they can lead to revolutionary conclusions antithetical to Freud's conservative position. Thus, paradoxically, he derives from Freud the opposite of what he claims, namely the possibility of a non-repressive society in which the happiness of the liberated Eros can assert itself. According to Marcuse, Freud's mistake lies in how he conceives of instincts' roots, especially when he states that they are biologically determined and not influenced by history. For Marcuse, human nature and historical conditions are mutually determined and shaped by each other, contrary to Freud's belief. That is to say not only that historical conditions are repressive, as well as men's instincts, but, considering their reciprocity, our ability to change historical circumstances can bring new positive outcomes in society. Aiming for a free society would mean reaching the possibility of a qualitative change where self-fulfilment and self-realization are achievable (Marcuse, 1966).

For a better understanding of Freud and Marcuse's theory, it is necessary to explain three key principles: reality, pleasure and performance.

According to Freud (1975), our mental and physical lives are driven by our sexual, death and self-preservation instincts, which correspond to pleasure, nirvana and reality principles, respectively. The pleasure principle is the drive that enables maximum sensual pleasure, and its primary characteristic is unrestricted satisfaction. In Marcuse's conception, this principle is identified as a non-instrumental activity and non-libidinal production, which are the opposite of proletarian labour.

The death principle seeks to return the organism to inorganic life by releasing it from the strains of the world. Thus, this principle will help us reach nirvana. Finally, the reality principle is composed of selfish instincts that prevent the satisfaction of the first two and every form of free life. Since it has no libidinal content, it can be attributed to capitalist labour and society as part of its instrumental culture.

In Freud's view, the qualitative and quantitative reduction of the first two instincts has led to human evolution and civilization, in which Eros and the pleasure principle are subjected to more restrictions by the self-preservation instinct, whose priority is the development of human civilization. The pleasure principle is thus sublimated in cultural and social instincts, which restrict men's satisfaction, creating trauma, pain and the de-eroticization of the human body. In addition, following Freud, history and its events have encouraged the abolition of the original genital heterosexuality, reducing erotic activity solely to reproduction and making it a means to an end. Thus, repression in massive doses has historical and social origins, and it is necessary to perpetuate domination, which involves the systematic sacrifice of the pleasure principle. In addition to these Freudian concepts, Marcuse illustrates the surplus repression required by contemporary society primarily related to work by referring to the concept of the performance principle (Freud, 1975).

In capitalist society, increasing material need directs instinctual and pleasure energy into exploited labour, which wastes mental and physical energy for the benefit of capital, creating frustration and discontent. In a such class society, where the poor and the proletariat are submitted to the will and the power of a small group of people, the supremacy of the reality principle over the pleasure principle is a consequence of political and social choices established by the capitalist class, and passively accepted by the proletariat, with the aim of increasing the production and the amount of energy required. Hence, the continuous effort of the ruling elites to transform sexual instincts into socially useful forces which would appear to be natural modes of behaviour. To draw a parallel, the small group of people previously mentioned represents the reality principle against the labour force, which reflects the pleasure principle's necessity to free itself and achieve complete satisfaction: 'Civilisation as we know it has arisen as a result of the normative decisions of enlightened elites, who forced their values on the large majority of humans, and not as a result of any normative decision and self-imposed instinctual discipline, which has basically been, as Freud put it, hostile to culture' (Zilbersheid, 2013: 87).

During the 1930s, Marcuse repeatedly returned to the problem of the relationship between revolution and happiness. It was, therefore, inevitable that he would meet Freud, who, in

Civilisation and Its Discontents (1929), had come to the pessimistic conclusion that civilization requires a radical suppression of instinct as a price for its development. In this way, individuals sacrifice their happiness, allowing neurosis to flourish. Freud, in fact, is quite pessimistic when it comes to describing history: civilization and happiness are antithetical and cannot coexist because more civilization requires less personal happiness and vice versa. Thus, man [sic] is condemned to endless sorrow and discomfort because the negation of civilization is beyond possibility.

In agreement with Freud, who saw the price of civilization in repression and its discomfort in neurosis, Marcuse (1966) believes that it is not civilization as such that is repressive, but rather this particular type of class civilization. As he sees the free release of Eros as a potentially subversive force against the existing political-economic order, and identifies sexual repression as one of the pillars of society's authoritarian and class organisation. Therefore, he believes that Freud's error of seeing the repressive society as inevitable in the natural order of things, is similar to Marx's view of capitalism as intrinsic in man's nature and not a historically determined product. Thus, Marcuse strongly contests Freud's conclusion because it hides a generalisation of every possible social structure.

According to Marcuse, it is possible to envisage the advent of a new non-repressive civilization, in which the liberation of Eros, the fulfilment of the desire for pleasure and happiness rooted in the depths of human nature, become concretely possible. Marcuse argues that the theoretical principles of psychoanalysis hold the premises that allow us to deny the pessimistic conclusions of Freud himself, by distinguishing the biological and the socio-historical components of the human psyche. As a result, Marcuse opposes Freud, who links repression only to biological impulses. Marcuse instead believes that biological aspects should not be disregarded, but go hand in hand with a historical and social analysis of human behaviour (Marcuse, 1966).

Considering the Freudian assumption that the existence of civilization is made possible by the subordination of the pleasure principle to the reality principle, Marcuse concludes that for a society to exist and survive, instinct has to be fundamentally suppressed. However, capitalist society requires additional repression relative to the social organisation of man's domination over man [sic], which responds to the performance principle. The latter notion is described as surplus repression required by the particular historical form of civilization that emerged in Western society, which uses individual psychophysical energies to increase people's performance to devote to production.

Intending to integrate Freud and Marx, it is not difficult to translate Marcusean discourse into Marxist language: the additional repression, with its 'surplus' repression of instinctual life, corresponds to what Marx calls the surplus labour necessary in capitalist society. According to Marcuse (1966), the performance principle regulates the markets and people's lives, requiring men enslaved by work to achieve maximum production efficiency and, consequently, maximum expenditure of psychological energies. Meanwhile, the demands for happiness and pleasure are completely ignored.

The impact that the domination of the performance principle inflicts on happiness is heavy. As a first step, it involves desexualising the body, reduced from a pleasure nucleus to a working machine. To accomplish this, polymorphic sexuality must be repressed and replaced with genitality functional to procreation and administered within the monogamous family. In addition, the performance principle requires a drastic reduction in libido, both temporally and spatially. However, Marcuse does not think of the reduction or release of libido as the decrease or increase in literal sexual activity necessarily, as libido includes all the human activities and attributes neglected in capitalist society (Marcuse, 1966).

Thus, leisure time is organised and functionally subordinated to working time. Society's repressive nature, precisely because it maintains dominance, does not tolerate leisure time and does not permit erotic impulses to express themselves freely. Yet, the human aspiration for pleasure pushes from within, so that the domination of the performance principle fails to suffocate it completely: the pleasure principle which lies at an unconscious level continually manifests in the conscious life of individuals as neurosis.

Consequently, Marcuse reveals that life's purpose in capitalist society is not to enjoy our being in the world as libidinal subjects, but has historically become work and fatigue, which individuals ended up accepting as something natural.

Even Freud could not capture the internal dialectic that undermines the performance civilization. The logic of repression favours a widespread diffusion of the 'father', seen as a symbol of repressive authority in society: it embodies authoritarian roles, increasing prohibitions that produce ever greater aggression. If, on the one hand, to neutralise aggressive impulses, civilization would need to strengthen sexual instincts since only a stronger Eros can dominate the destructive ones; on the other hand, this is not achievable because society has repressed libido to favour work and

fatigue. The weakening of Eros favours the disordered manifestation of destructive impulses. In this way, undermined by a fundamental irrationality, civilization tends to become self-destructive (Freud, 1975).

As opposed to Freud, who argued that the abolition of civil repression would cause a regression towards pre-civil phases of sexuality, Marcuse suggests that a new reality principle that abolishes additional repression could lead to the resexualisation of the body, the activation of erogenous, sexual polymorphism – with the crisis of monogamous, patriarchal families – and the transformation of sexuality (Marcuse, 1969). In a new non-repressive civilization, all human life would become eroticized. As a product of the performance principle, Eros would go beyond the body to invest in the spiritual life. Additionally, the pleasure principle and work would be reconciled: the latter would cease to be a constraint and become more like a game. Instinctual liberation is combined with inventive, socially beneficial work, for example, also dedicated to improving the environment. Work would continue to ask for sublimation, but it would be a sublimation in a labour relations system that is itself libidinal. Indeed, Marcuse believes that the performance principle created the historical preconditions for its dialectical abolition. This is essential because technological development and the automation of production processes have laid the objective foundations for a radical decrease in the amount of instinctual energy invested in work for the benefit of Eros and a transformation of work into play. Marcuse, therefore, places real hope in the belief that the results achieved by advanced industrial societies can allow humanity to progress towards a historical evolution, that breaks the fatal links between productivity and destruction, freedom and repression, and gives human beings the ability to shape the world according to their instincts using social wealth.

1.3 *One-Dimensional Man* and the consumerist society

By looking at *One-Dimensional Man*, the aim is to analyse the relationship between technology and mass society and question whether new forms of liberation can be traced within technological development, despite the repression and domination that Marcuse emphasises.

Marcuse is best known among the philosophers for his radical and critical diagnosis of contemporary society and the capitalist system it exists within.

In analysing late capitalism deeply, he pointed out the debate between forces of liberation and forces of domination, focusing on problems such as the existence of instrumental reason, hierarchical social relations, multidimensional global crisis, profit of the markets, and the domination of advanced industrial society promoted by the rise of technology. Against the forces of domination, Marcuse emphasises the importance of the forces of liberation. They promote critical thinking and subjectivity, which can lead to a non-capitalist system capable of breaking this cycle. For these reasons, he embraced the movements of liberation over the alienation of the current production system, and supported the revolution aiming at social emancipation. In doing so, he achieved worldwide popularity, mainly supported by student, feminist and social movements upon which he left a strong cultural and political impact.

Most importantly, Marcuse is one of the first to have noticed new forms of alienation created within the mass society through the impact of technology and mass media culture. He attempts to provide a detailed description of a society in which the dominated classes are assimilated into a material world, as well as how monopolistic capitalism is reproduced through the control of needs, subdued consciousness and repressed subjectivity, which, in turn, prevents radical social transformation from occurring.

In his book *One-Dimensional Man* (1968), Marcuse developed some critical analysis of the advanced industrial society and its social and economic ideology based on contemporary capitalism. Within this cultural-economic framework, the development of technology undermines critical and individual rationality, which becomes more technical and dominated by the current socio-technical apparatus. Conformity spreads via the mass media and consumerism, creating a one-dimensional society. The one-dimensionality described by Marcuse embodies epistemological and anthropological concepts of a man [sic] whose subjectivity, sense of hope and freedom are closed off. The metaphysical difference and relation between subject and object are no longer contemplated, as technology has replaced metaphysics with a one-dimensional technical world where instrumentally and efficiency are new goals of existence without substance. Moreover, reason itself is an instrument of domination that no longer reflects freedom and critical thinking. This transformation affects the proletariat, which is no longer a historical agent of the revolution. The proletariat's assimilation and affirmation of the capitalist mode of production represent a turning point in Marxist theory as, in advanced industrial countries, the working class is assimilated into the system, losing the ability to negate it and struggle for its rights.

With the increasing concentration and effectiveness of economical, political and cultural controls, the opposition in all these fields has been pacified, co-ordinated or liquidated the 'power of Negativity'. Reason has identified itself within the reality: what is actual is reasonable, although what is reasonable has not yet become actuality. [...] But precisely in the advanced industrial countries, since about the turn of the century, the internal contradictions became subject to increasingly efficient organisation, and the negative force of the proletariat was increasingly whittled down. [...] Not just impoverishment, but impoverishment in the face of growing social productivity was supposed to make the proletariat a revolutionary force. But then the development of capitalist productivity stopped the development of revolutionary consciousness. Progress in administration reduces the dimension in which individuals can still be with themselves and for themselves and transforms them into total objects of their society. The sphere in which individual and group transcendence was possible is thus being eliminated and with it the life element of opposition (Marcuse, 2013: 435-7).

Technological progress increases productivity due to the multiplication of the satisfaction of needs, which becomes repressive and a source of mass manipulation, changing the social power and making revolution an old-fashioned value. Everything happens within organised capitalism to eliminate opposition and create new forms of control that forbid any drastic social change due to bureaucratic dominance.

Marcuse highlights the erosion of authentic individuality, caused by radical individualism. At a cognitive level we are not able to perceive the existence and the possibility of another dimension beyond one-dimensionality. In advanced industrial society, the status quo is the fundamental process of the so-called *advanced capitalism*. This system is characterised by destructive tendencies based on goods, fetishism, waste, exploitation of resources, manipulation of needs and freedom, repression of the labour system, insane production and a society that is 'irrational as a whole' (Marcuse, 2013).

Therefore, *One-Dimensional Man* plays an essential role in showing the problems within the advanced capitalist system itself. In his analysis, Marcuse sustains the core ideas of Marx's critique of capitalism in order to build constructive criticism. In fact, he strengthens Marx's point, arguing that the capitalist mode of production becomes more assertive than the one envisaged by Marx because of the role of mass culture, which, by creating new material needs, spreads the assimilation

of men to the new social order. As a result of mass media dominance, rational and sensitive human faculties have been modified. As Marcuse says: 'The very mechanism which ties the individual to his society has changed, and social control is anchored in the new needs that it has produced' (Marcuse, 2013: 9). The intellectual and social reactions are contained, producing false consciousness and indoctrination preventing qualitative social change. Thus, production and consumption are part of the counterrevolution. Potential forces of opposition are assimilated into the establishment by conservative forces that contain and cancel any dissent. The new ideology's structure is based on production and consumption, shaping the new social order and the culture, replacing the brute force usually used in the past. In Marcuse's words:

This society is obscene in producing and indecently exposing a stifling abundance of wares while depriving its victims abroad of the necessities of life; obscene in stuffing itself and its garbage cans while poisoning and burning the scarce foodstuffs in the fields of its aggression; obscene in the words and smiles of its politicians and entertainers; in its prayers, in its ignorance, and in the wisdom of its kept intellectuals (Marcuse, 2013: 12).

Culture itself is now part of the system, losing the subversive power it once possessed. Nowadays, art is assimilated into the one-dimensional society and transformed into low-cost entertainment without being an emancipating force that could transcend the given reality. Moreover, language has assumed a one-dimensionality that manipulates people, blocks critical thinking, and leads to a 'historical amnesia' in the entire society, which forgets how historical facts have evolved in the current situation. It is within the one-dimensionality of the establishment that historical and critical reason are denied.

In these circumstances, the one-dimensional subject tends to develop a happy consciousness that doesn't differentiate what it is and what it should be, as reality manages to encompass any ideal that tries to refute it. The individual cannot see other possible ways of being and thinking, believing that the real is rational and that the established system is the only one that can exist. The unhappy consciousness, typical of those who do not accept this system, is replaced by the happy consciousness that accepts consumerism as the only means of satisfaction.

Control of subversive forces is achieved by subduing Eros in the one dimension, manipulating sexual freedom as a 'repressive mode of desublimation' which 'extends liberty while intensifying domination' (Marcuse, 2013: 72).

Meanwhile, the discrepancy between the potential of freedom within the technological transformation and the increasing of the struggle for existence creates hostility to one another, increasing the repressive feeling within the society.

As for the 'tolerance' of which democratic states boast, Marcuse speaks of 'repressive tolerance' meaning the way capitalist societies allow anything (permissiveness to give an example), including freedom of expression, as long as it does not harm the essential interests of the system. A logic of dominance regulates everything, and its power is extended by technology, which has become the new tool for expanding control across all spheres of culture. As a result, political rationality is embedded in technology, which in turn becomes technical rationality (Marcuse, 2013).

The Western technological society can be compared to the totalitarian one: life in its entirety is dominated by an economic and technological system that, apparently respecting freedom and democracy, manages to manipulate needs completely without using the methods of a terror state, in accordance to the established interests. The proletarian revolution inspired by Marxian hope appears to be an illusion. In addition, not only are democratic countries unified against a Communist enemy, but there is a confluence of particular interests and powers between the two systems. Both are structured to avoid qualitative change, and both are systems of domination with entrenched bureaucracies. In this way, both communist and the capitalist societies restrict change and deny liberation.

In Marcuse's view, the foundation of socialism in the Soviet Union does not follow Marx's hope. The elimination of alienated work, better conditions for social justice and equality and emancipation for everyone did not take place. Instead, the Revolution left space for a new autocratic state controlled by Stalin. The similarities between Western capitalist and East European socialist states can be seen in their use of technology. Both capitalist and communist systems invest in producing technology and increasing science to provide new forms of social control. In this way, science and technology become instruments of domination that assume totalitarian and social control characteristics. Technical rationality describes industrial capitalism which is totalitarian in imposing its rules – 'rather than being out of control or autonomous, science and technology are controlled and constituted by specific societal power and have specific social functions which render advanced capitalism qualitatively different from previous social formations' (Kellner, 1984: 266).

As Marcuse claims, it is evident that

The sustained power of this domination confronts the growing opposition to the global domination of corporate capitalism: its economic and military hold in the four continents, its neo-colonial empire, and, most importantly, its unshaken capacity to subject the majority of the underlying population to its overwhelming productivity and force. The global power keeps the socialist orbit on the defensive, all too costly not in terms of military expenditures but also in perpetuating a repressive bureaucracy. The development of socialism thus continues to be deflected from its original goals, and the competitive coexistence with the West generates values and aspirations for which the American standard of living serves as a model (Marcuse, 1969: 7).

The opposition within the capitalist system has to face even a significant opponent in the law and order apparatus of the democratic system incorporated into a capitalist structure and that widely legitimates violence to protect the establishment against those who do not follow their standards and values. The ideological struggle can mature into a material, political force against those who reject fixed values. Marcuse says:

In this situation, law and order become something to be established against the established law and order: the existing society has become illegitimate, unlawful: it has invalidated its law. Such has been the dynamic of the historical revolutions; it is hard to see how it can be arrested indefinitely (Marcuse, 1969: 55).

As a result of the capitalist system, almost the entire society is now within into its service, transforming each individual into an instrument.

Furthermore, 'the technical division of labour divides the human being into partial operations and functions that capitalists coordinate. This techno-structure of exploitation organises a vast network of human instruments which produce and sustain a rich society [...] Capital now produces not so much material privation as the steered satisfaction of material needs, while making the entire human being into an object of administration, geared to produce and reproduce not only the goals but also the values and promises of the system and its ideological heaven. Behind the technological and political veil of democracy, appears the reality, the universal servitude of human dignity in a

prefabricated freedom of choice [...] True and false, good and bad define the market value of men and things' (Marcuse, 1972: 14-15), openly become categories of the political economy, but part of a 'harmonising pluralism' that consolidates the idea that capitalism is not the problem, but the technological-totalitarian mechanism that drives.

Nonetheless, Marcuse perspective about the impact of the technology on society changed rapidly in years. Therefore, the following paragraph will investigate the new conception Marcuse developed in his later work and compare these two antithetical sides.

In his work *An Essay on Liberation*, Marcuse is careful not to blame technology itself, because he has observed how capitalist features are embedded in technological development. In fact, he argues:

Is it still necessary to state that not technologies, not technique, not the machine are the engines of repression, but the presence, in them, of the masters who determine their number, their life, their power, their place in life, and the need for them? Is it still necessary to repeat that science and technology are the great vehicles of liberation, and that it is only their use and restriction in the repressive society which makes them into vehicles of domination (Marcuse, 1969: 12).

Therefore, he envisages the potential positive impact of technology in society. Science and technology can drive social change in line with a new sensibility and a political education that promotes a new consciousness and emancipation. In Marcuse's view, this plan should be translated into practice in order to transcend historical dominance and diminish the power of the performance principle. This new reality – which Marcuse called the *pacification of existence* (1969), namely the condition which allows human needs to be satisfied – can be achieved by approaching together technology and the idea of freedom. The technical system can help to reduce the overdevelopment of the advanced industrial society and can provide the basis for the pacification of existence. In fact, like other technologists, he believes that modern technology has the power to overcome material scarcity if and only if its aims can be directed to the rational purpose of emancipation.

In Freudian terms, a qualitatively different reality principle would replace the repressive one by using technology. In a different economic and political environment, technology can be combined

with new forms of freedom, which are unrelated to the current reality, but are capable of evolving and expressing themselves freely in the play. However, pragmatically speaking, Marcuse knows that the present reality is far from reaching the freedom he desires, falling into mere speculation about the future and unable to offer any concrete examples. Moreover ‘Marcuse did not look for unexpected places where the system’s contradictions might break out. He seemed to have much faith in domination and too little in resistance, too much respect for the rulers and too little for the ruled’ (Arosen, 2014). Therefore, we must avoid making the same mistake when analysing technology, believing that it blocks resistance against the system. There are liberating tendencies within the society that Marcuse is not able to see, perhaps because he is too focused on describing the repressive forces of the one-dimensional society. Hence, it is important to keep in mind the description of capitalist society given by Marcuse, but at the same time overcome the teleological assumptions of what the future should hold.

1.4 The antithetical vision of *The End of Utopia* and *An Essay on Liberation* versus *One-Dimensional Man*

Three years after writing *One-Dimensional Man*, Marcuse developed *End of Utopia* (1967) followed by *An Essay on Liberation* (1969). This latter work aimed to resolve the problem of technology within capitalism and highlight the more beneficial impact it might have.

Marcuse argues in both essays that a radical change is possible due to a new political and economic awareness of society's needs. The approach of these two essays differs from Marcuse's depiction of society in *One-Dimensional Man*, where he portrays a much more negative and radical view of a society unable to free itself from capitalism and its dominance imposed by technology. This change perhaps reflects historical events during the late 1960s, with 1968 predominantly a year of protests and revolutions, initiated by students aiming to dismantle the social system of the time. The direct political protest of the 1960s led Marcuse to believe that the contradiction within capitalism was more evident, giving him hope that social change would be possible. He became confident of the existence of transformative forces, not integrated within the system, which could alter the capitalist mode of production. Furthermore, the Prague Spring in Eastern Europe in 1968 was evidence of the need to decentralise administrative authority and hasten the process of de-Stalinisation.

In parallel with the possibility of establishing new optimistic and more existential conditions, Marcuse elaborates on an alternative social system that he presents in his essay *End of Utopia*. As

the title suggests, he envisages the creation of a new political, social and educational system and explains that it does not only consist of a utopian vision. *End of Utopia* describes the goal of a new idea and definition of socialism and its place within capitalist societies. Since existing socialist countries do not offer better alternatives to capitalism, the socialism Marcuse envisages is a libertarian version, which strives to achieve human liberation and social emancipation. At the same time, it promotes transformation to a higher level and a radically different version from those seen at the time. He conceived, in fact, a form of socialism where what was currently forbidden – namely, reduced working hours, self-realisation of individuality and pleasure principle's function – could be achieved over time:

What it said to be utopian, it isn't utopian anymore as for instance the elimination of poverty, of suffering. Today social wealth is so considerable that a rational organisation of productive forces directed towards the interests of everyone would make possible the overcoming of poverty in the world in a few years. Further, the shortening of working time is, according to Marx, the precondition of a socialist society. No one denies – not even the bourgeois economists – that the socially necessary labour time could be decisively reduced in the developed industrial lands without diminishing the cultural and material level of life (Kellner, 1984: 328).

In Marcuse's view, socialism is a new form of human existence where new institutions, social emancipation, labour apparatus and technologies can provide a real possibility of freedom. His new political vision converges with a sociological and anthropological one. It suggests that a new form of existence will lead to a new humankind that will constitute the basis of humankind in the twenty-first century. Generally speaking, this plan might be achievable by educating a new type of society in which its attitude prevents aggressive behaviour and prefers solidarity and greater consciousness leading to true social transformation. However, at this stage, the question arising in the described context is whether we need a revolution to accomplish this program. Marcuse opts for a softer approach, stating:

A tolerant society which preached no conflicts is utopian; what it is not utopian is the idea that in society conflicts can exist and be resolved without harshness and injustice. In the process of transformation, the social agents of the revolution have

the potential for liberation because the material forces of transformation can be accessible as long as we release the existing organisation from the current forces of production and thus new qualitative production relations can be created (Marcuse, 1970: 62-64).

Hence, the realisation of a concrete utopia, or utopian possibilities, can be achieved both in the realm of freedom, i.e. leisure, and necessity i.e. work. As utopia ends, a social utopia emerges, related to the anthropological perspective Marcuse seeks to advance.

Thus, in Marcuse's view, utopia refers to sociological and historical processes that are considered impossible to achieve due to social factors opposing transformation. The philosophical reason why utopia is ending, with a potential social transformation on the horizon, is the possibility of overcoming Marx's distinction between the realm of freedom and the realm of reality. Whereas for Marx these realms are separated so that the realm of necessity is alienated labour, far removed from the realm of freedom, for Marcuse the latter is within the former, and shares the same identity. Thus, the development of a condition where needs based on dominance and exploitation are reshaped towards new vital needs and, of course, new social relations, is at the heart of social transformation.

In terms of social relations, the reconstruction of human identity and individuality is the first step towards a new social environment. Capitalism erodes individuality, which becomes a tool for production. Individuals cannot express themselves because they conform their happiness to the unhappiness of the whole system or to the Great Society, as Marcuse refers to. According to him, the Great Society is a capitalist society based on efficiency and productivity, or what Marx called the realm of necessity. In this society, free time also becomes a matter of quantity, reflecting the repressive mode of existence and social performance, making people conform to new needs created deliberately in the name of the performance principle. It is nevertheless Marcuse's belief that creative individuals might emerge as non-conformists, who act according to their rationality and who will transform this historical condition into a reality where freedom and happiness are genuinely possible, thereby opposing capitalist rationalism and the Great Society, where freedom, peace and justice are incompatible (Marcuse, 1970).

Certainly, what he writes has both positive and negative implications. On the negative side, he is convinced that technology will create a dichotomy between the realm of freedom and the realm of reality, in which the former will not be allowed to shape better working conditions and is therefore

confined to the theoretical domain, while the realm of reality will bring exploitation through technological mediation. However, he also points out the possibility that technological intelligence can be creative in bringing about a kind of qualitative change. According to Marcuse, investing in education is the starting point for new socioeconomic development based on new values better suited for our technologically driven society.

The values referred to by Marcuse above identify social norms that can support the satisfaction of human needs and influence behaviours which limit exploitation and thus consumption. In the transition from the old to the new system, we can characterise values as either being tied to the existing social system, or transcending the opportunities denied by that system. The role of values is significant in driving social change towards a new mode of life that frees the potential of humanity and nature. As noted in the *Great Society*, these values are neglected, abstract and ideological. But at the moment of transition, values such as equality, liberty and self-realisation can become material forces in the process of change as soon as they fuel political action on a massive scale. Besides invalidating existing political and economic institutions, this transformation of values would also create a new morality and a different relationship between man [sic] and nature (Marcuse, 1970).

In other words, the transition of utopia into reality will occur through a Hegelian dialectic process in which the new values fight capitalist ones, and the proletariat of the Marxist revolution takes action against the capitalists. These two processes become fundamental for Marcuse, whose intent is to change the instinctual structure of human beings by way of rejecting the performance principle and the surplus alienation, thus forbidding the satisfaction of transcendent needs. Essentially, the new society can emerge from this freedom granted to new individuals and their new-found sensibility. Moreover, qualitative change can be achieved only if the opposition between values and reality can be resolved through historical mediation and, at the same time, if the values resonate with the reality in which they are expressed.

After Marcuse's shift of views, due to the historical events mentioned above, his discourse about technology becomes important for understanding its impact on the new society Marcuse envisages. From *One Dimensional Man* onwards, Marcuse has clear in his mind that the technical apparatus in advanced industrial civilisation not only serves instrumental purposes but also determines forms of social and political control. Technology embodies the attitude of those who control the system and thus should be subjected to the same change. Likewise, a qualitatively distinct mode of existence would depend on a change in the technical basis of society. The achievement of this goal implies the negation of technology because the repressive characteristics of advanced industrial society have

been associated with the use of technology that imposed the materialisation of values. Therefore, his new values require rationality capable of organising non-instrumentalist, non-utilitarian and non-repressive goals through technology, with the understanding that we need values that better accommodate technology. Only in the context of a revised historical project that encompasses a revolutionary social change is it possible to establish a qualitative technological rationality and a more vivid vision of social progress (Kellner, 2011).

What Marcuse is attempting to show is that while technology should be involved in the reduction of consumerism, and the full realisation of our intellectual and material capabilities for the satisfaction of human needs, it is in reality being used to increase profit alongside waste and the destruction of humankind and the natural world. Society now utilises technology disruptively because it has established a condition of servitude in which people reject their own freedom since they are dependent on the things that control them: ‘the irrational in this society appears as rational because people indeed have more comforts and more fun. Domination appears as freedom because people have the choice of prefabricated goods’ (Marcuse & Kellner, 2001: 86).

This condition of servitude is well described by Hegel in his *Phenomenology of Mind* (1910), where he mentions the so-called *Dialectic of master and the servant*. In this piece, Hegel discusses the cause of domination, which derives from the mutual dependence of master and slave. The master’s existence depends on the slave’s work through which the capitalist expresses his power. In turn the servant accepts this condition but becomes conscious of his power over the master. Domination exists because one man [sic] is chained by his labour to another man [sic]. Without this social relation where, one dominates the other through his labour, human existence would be free.

In conclusion, technological possibilities are not sources of repression if created in a non-capitalist setting especially when they redirect society towards satisfying real needs. Such needs are repressed under capitalism where the focus is a maximising profit. Furthermore, it is worth stressing that Marcuse's arguments against technology are not calls for a return to a non-technological, pre-industrial world, but rather for altering the rules of capitalist industrialisation. After all, Marx also states that the automation of labour counters the preservation of because of production that no longer requires the same volume of physical work frees individuals to invest more of their energy in leisure activities.

In the form of a social productive force, these new vital needs would make possible a total technical reorganisation of the concrete world of human life, and I believe that

new human relations would be possible in such a reorganised world. [...] I hope that when I speak of doing away with the horrors of capitalist industrialisation it is clear I am not advocating a romantic regression behind technology. On the contrary, I believe that the potential liberating blessings of technology and industrialisation will not even begin to be real and visible until capitalist industrialisation and capitalist technology have been done away with (Marcuse, 1970: 67-68).

In the *End of Utopia* and *Essay on Liberation* Marcuse suggests radical social reconstruction as a solution to the problems of industrial society, based on a substantive vision of liberation which includes new technologies as well as new values and forms of living. In fact, Marcuse's philosophy revolves around the concept of liberation, believing that happiness and self-fulfilment cannot be achieved without freedom (Marcuse, 1969). Applying Hegelian dialectic, the established system fights against the rise of a new one in which human beings can freely fulfil their true needs. New forms of domination are inherent in society, which repress the satisfaction of needs and perpetuate the struggle for existence. Against this system, the so-called *Dialectics of liberation* (in *Essay on Liberation*) include a new standard of reality, free from the performance principle, and a new humanity more conscious of the qualitative needs that drive liberation. In other words, because the transformation of society is the transformation of needs and vice versa, the transformation of the former must proceed with a transformation of the latter. So, supposing happiness and freedom cannot be gained by subduing material conditions and defeating the existing system, new social conditions must be created through modern technology and the introduction of automation, and this influence may lead to a reduction in alienated labour.

The fact that technology does not align with human needs demonstrates the faults of the current social system, which is oriented towards profit and thus causes people to feel uncomfortable and unsatisfied. Marcuse himself reiterates that 'without freedom and happiness in the social relations of human beings, even the greatest increase in production and the abolition of private property in the means of production remain infected with the old justice' (Kellner, 1984: 144-145).

Therefore, existing societies should recognise the potential for social change when assessing the rationality of new regulations and the irrationality of current conditions. From Marcuse's point of view, the discrepancy between 'what is' and 'what it could be' (*Towards a Critical Theory of Society*, 2001) can give impetus to real social change. In comparing technological potential and accumulated material wealth with its current restrictive use, Marcuse condemns society for its failure to use technology in more emancipatory and human ways. However, Marcuse does not

provide direct examples of how technology can be used for social emancipation. In his writings, Marcuse's concept of better use of technology relates to a decrease in working hours and in supporting the work process, so more time can be dedicating time to the self and more mental and physical energy can be expended upon leisure. Moreover, he is not entirely open to giving an example because he believes that since the technological order implicates political coordination, it may contain both negative and optimistic aspects. Marcuse is certain that technology can help the process of labour, opening up the possibility for a complete abolition of it, but the concept of the abolition of labour must become a regulative idea if we want to eliminate or at least greatly reduce exploitation (Zilbersheid, 2013).

Therefore, according to Marcuse, 'more aspects of non-instrumental activity should be integrated into production, keeping in mind the ultimate goal of eliminating instrumental activity completely. Such integration is fundamentally tied to a change in the character of technology. To use Marcuse's language, we should strive to bring about a "convergence of art and technique" that is to transform machines, or machine systems, into moments of non-instrumental, artistic activity' (Zilbersheid. 2012: 720).

When it comes to articulating technology's impact on society from a wider perspective, Marcuse's philosophy presents a significant evolution and improvement in understanding, from one-dimensionality through to liberation. If in *One Dimensional Man*, Marcuse considers the technological influence on society to be a threat to freedom and positive values; on the other hand, specifically in the *Essay on Liberation*, he liberates technological progress from exploitation, declaring its potential to create freedom and equality, and considers that social issues do not relate to machines per se, but to those who use them as a form of control. As Marcuse says:

Is it still necessary to state that not technologies, not technique, not the machine are the engines of repression, but the presence, in them, of the masters who determine their number, their life, their power, their place in life, and the need for them. Is it still necessary to repeat that science and technology are the great vehicles of liberation and that their use and restriction in the repressive society make them into vehicles of domination? (Marcuse, 1969: 12).

The quote above clarifies that technology can become a tool for political education and to bring about praxis, reducing the strength of the performance principle. In brief, it is easy to see how

technology can be used to maintain and raise social labour productivity, create new needs with the demand to satisfy them, against any form of pacification of existence. However, these changes are not the product of technology, but stem from decisions made by governments and social decisions which require an increase in production and consumption, as well as the fulfilment of capitalist needs. In Marcuse words: 'technical progress evolves its own apparatus and evolves it in accordance with the work to be done, and this work is not determined technologically: it is rather given from outside, by the social needs to be fulfilled. In advanced industrial society the further development of needs is a matter of politics; those who control the economy also control the creation of needs and the ways and means of their satisfaction. All this is external to technology' (Kellner, 2001: 47).

Under these circumstances, technological rationality performs the role of political rationality, consolidating the relationship between technology and politics. Furthermore, since modernisation belongs to science and technological development, it is crucial to bring it closer to the principles of liberation so that technological society will not be part of a domination plan but will cooperate for freedom, self-realisation and the pacification of existence. Moreover, one of the outcomes of technological processes can be the growth of freedom and individual autonomy, as mechanisation and standardisation reduce the areas where individuality is applied (Kellner, 2001).

Overall, in Marcuse's holistic view, the problem of technology is considered especially with regard to the historical, social and psychological facts.

As Marcuse argues in his book *Eros and Civilisation*, technology can be combined with new forms of freedom unrelated to the realm of necessity. *The End of Utopia* also refers to the end of surplus repression, where the abolition of poverty, misery and hunger is helped by technological progress. Within the overall framework of his project, the concepts of liberation and utopia play an influential role in creating a new culture and sensibility where technology might be a vehicle for liberation and create more sustainable needs as a result of the social change. Social change is, in fact, a qualitative change if it leads to different forms of human existence which refuse control of the ongoing production process in favour of a more equitable division of labour.

Hence, reducing overdevelopment can only be achieved when the technical system provides the basis for a peaceful existence. Besides, utopia and its end contain the concept of the pacification of existence, i.e., a time in history when no alienated labour will exist as a result of technology that fulfils human capabilities. According to Marcuse (1990), the key to this peaceful existence is a

world based not on the accumulation of power, but on natural gratification with less competitive and manipulative human relations. Indeed, Marcuse believes that modern technology has the power to overcome material scarcity as long as its aim can be directed to rational Emancipation.

Taking into consideration the potential positive aspects of technological development, it is possible to balance how we consider the phenomenon of technology, to overcome the theoretical assumptions reported so far, and provide a practical basis that can demonstrate utility in our political, social and moral behaviour. For these reasons, the goal of the next chapter will be to investigate the extent to which technical progress can bring the possibility of freedom instead of repression and satisfy human needs, liberty and gratification. It will be shown that Marcuse's focus on the relation and influence of technology within society is the first step to understanding the factors that lie behind the social and technical transformation we are witnessing: 'Great forces of transformation are unleashed through technological revolution, especially computers and biotechnology, which contain great promises, but also threaten to intensify forces of domination and destruction. Consequently, progress and regression are embedded in the current forces of technology, society and politics on a global scale. The current historical situation is thus fluid, open and ambiguous, requiring the mode of dialectical analysis and critique technique developed by Marcuse' (Kellner, 2001: 32).

Even so, we can't ignore Marcuse's effort to develop his theory concerning the transformations of capitalism and technology, historically integrating these factors into the new global economic system. The goal of the present work will be to emphasise the relationship between technology and society, as Marcuse always paid particular attention to its significant position in organising contemporary societies, especially with the emergence of new technologies in our time. Moreover, the prevalence of new media technologies in the last few years requires a Marcusean approach to capture both their potential to produce progressive social change and role in creating new forms of social domination. Due to what Marx called the *metabolic exchange between man [sic] and nature*, the modification of nature and man's existence through material tools is inevitable; however, in a utopian world, labour might be different from the one we conceive thanks to technology's influence, perhaps. As a consequence, the abolition of labour, as an instrumental activity, becomes an important historical moment in leading humanity to freedom from instrumental chains.

Accordingly, the second part of this study will investigate the relationship between technology and society and whether technology can truly contribute to positive change.

CHAPTER TWO

This section aims to rephrase Marcuse's radical critiques of technology, particularly those described in *One Dimensional Man*. It will focus on his examination of technological phenomenon in order to resolve the inconsistencies in his attitude evident when comparing *One-Dimensional Man* and *An Essay on Liberation*. My hope is to restore a parallel between the two essays, discover a more coherent position in his view of technology and re-establish the importance of the social component that permeates Marcuse's work but is overlooked in this area in particular.

This chapter aims to demonstrate that the only way to achieve new technological rationality congruent with social needs will come through dismantling the idea that technology is a monolithic force independent of the logic behind its production, its political and social repercussion and the exploitation it can bring about.

Specifically, I will demonstrate Marcuse's ambivalence regarding the technological phenomenon, particularly showing that the association of technology with capitalist hegemony is only sometimes the case.

Moreover, against Marcuse's misunderstanding of the technical phenomenon as a natural occurrence, I will demonstrate that we sometimes confuse technological operations with their contexts, and that what appears autonomous is socially given and contextualised in a specific cultural and historical setting that determines their intrinsic instrumentality. In this regard, I will investigate a case study regarding the digitalisation in healthcare in Great Britain, demonstrating the social determination of technology's impact.

I will also demonstrate that the decay described in *One-Dimensional Man* is not caused by technology per se, but by the values that govern that development. Since modern technology represents the values associated with a specific civilisation, it resembles those of the industrial society, demonstrating that the values must be adjusted rather than the technology itself.

To this end, I will investigate Feenberg's theory of technology and what he defines as *the Biases and Paradoxes of Technology* (2010) in order to understand that the misunderstanding of technological phenomena derives from imprecise use of language relating to common sense, which leads to an incorrect consideration of technology. Also, they will provide a framework for deconstructing the notion that technical mechanics are phenomena that society cannot influence.

The introduction of some explanatory concepts - the concept of a medium, democratic paradox, and strange loop - straightens society's relationship with technology.

Afterwards, I will continue discussing the concept of agency in technology, posing thoughts about the meaning of technological agency, which participates in realising human intentions. Additionally, I will mention the *Philosophy of Mediation* viewpoint regarding the nature of mediation across four relation types to acknowledge the social aspects of technology as it mediates social goals, shaping how we perceive and experience human behaviour.

To conclude, I will emphasise the importance of Pragmatism as the philosophical method to better understand the transactional relationship between society and technology, as opposed to the interactional relationship that Determinism seems to pursue. The pragmatic lens illustrates how sociodynamics determines technology and its outcomes.

To sum up, considering the socio-determination of technology, it should be possible to construct a technology which aligns with values that differ from those promoted by capitalistic society. In fact, whereas capitalistic rationality uses technology as a tool to satisfy capitalistic values, e.g. dominance and consumption, society must overcome the current approach to establish new beneficial values to secure a better future. This mission is evident in both Marcuse and Marx when they envisage abolition of capitalism by means of socialism. However, thus far this has not occurred. Hence, Marcuse's *Critical Theory* appears to contain an impossible resolution between the capability of socialism and the application of totalitarian technology. Therefore, for socialism to succeed and for capitalism to be overcome, it needs to transcend the given form of technical rationality represented by class society.

2.0 An analysis of Marcuse's ambivalence of the technological phenomenon

Marcuse's analysis of technology focuses on its application in capitalist societies. In capitalism, as described in the first chapter, technology is only involved as a means to apply capitalist rationality through efficiency. Hence, the capitalistic and technological society aims for new social controls by manipulating essential needs and creating unnecessary ones through production and consumption, which Marcuse heavily attacks. Marcuse's critical theory leaves little hope – at least in *One Dimensional Man* – for the application of technology in another setting to support the development of a better society. However in this book, Marcuse faces some difficulties in developing a theory of

technological hegemony that explains the relationship between social power and technological process, making generalisations. He associates technology with capitalist hegemony assuming it has fixed characteristics based on efficiency and assumes it is standard in all the social contexts. However, *the technological society*, as Marcuse (2013) calls it, does not use resources as efficiently and rationally as a truly technological society would. Industrial society is not driven by the better use of technology, but rather the opposite. Technology become a tool of repression and dominance, violating the positive purposes that technology might possess. Its positive application should lead to the reduction of consumerism, and the full realisation of our intellectual and material capabilities for the satisfaction of human needs, but in fact technology is used to increase profit but also waste, leading to the destruction of the natural world and potentially humankind itself. Additionally, capitalist society utilises technology disruptively because it has established a condition of servitude in which men reject their own freedom for the benefit of consumerism.

However, as Marcuse attempts to offer a more optimistic perspective, he appears to become ambivalent in his view of technology, identifying it as part of a process that sustains development, as seen in the *Essay on Liberation* rather than the struggle for life seen in *One-Dimensional Man*. In the latter, in fact, the author charges technology with the autonomy to decide its impact on the world.

Thus, he falls into limbo and generalisation, making it arduous to explain his position.

The first point of criticism in the above claim concerns the abstract nature of his analysis, falling into transcendentalism and perceiving technology as a disruptive force. Normative judgments are made without concrete accounts of its effects on the development of society.

According to Feenberg (1991), the combination of two opposing positions may have led Marcuse to commit this mistake. Two theories – instrumentalism and substantivism – focus on different aspects of technical artefacts, namely functionality or instrumentality in the former one, and essence or rationality in the latter.

This ideology stems from a traditional dualist position – strengthened by Heidegger – in which objects, once separate from their subjects, have a different essence and normativity (Feenberg, 2010). Although Marcuse tries to establish a unitarian vision supporting the theory that technology

is social determined, he falls again into the above conception, unable to clarify what technology is. This leads him to fall into dualism when evaluating technical artifacts.

With regard to these two approaches, instrumentalism considers technology as a neutral instrument to achieve human goals. However, in considering only its instrumentality, Marcuse ignores the human responsibility involved, and fails to grasp the dependency between technology and capitalism which establishes its uses, implementation and goals.

However, substantivism holds that technological artefacts possess an essence, which motivates their application. The substantive approach steers the analysis in a different direction, focusing on essence and substantive forces which significantly impact different aspects of cultural and social life (Feenberg, 1991). According to this view, technology is autonomous, incapable of being controlled by humans and with an inner intentionality which irreversibly transforms society. This characterisation is the core of *One-Dimensional Man*. Marcuse argues that technology transforms our society and non-technological values through efficiency and a self-affirming system, making it impossible to escape. In fact, when dealing with technology, it seems that technical artefacts have end-oriented goals that are separate from social intentions and that any issues that occur are the result of a machine's logic rather than human intention. His lack of understanding of this point is evident when he focuses blame on the impact of technology rather than its political/social intent, and confuses the essence of technology with its context. Therefore, he believes that its code is hegemonic and falls under capitalist logic, thus denying the potential for technological improvements that could lead to a technologically advanced society.

In this view, blame should not necessarily lie with the negative aspects of 'the machine', but rather the intentions of the ruling classes. What is defined as 'technological rationality' is determined by those who shape technology to meet needs that are not compatible with workers' individualities, as the nature of technology is dependent on hegemony's purposes.

As Feenberg (1991) points out, the problem of technology stems from substantive theory mistakenly linking the lack of values on a political, social and economic level with the instrument itself. Therefore, connecting and believing that values lie within the technical artefacts, rather than focusing on the social aspects that make technology biased is substantive theory's principal oversight. In advanced industrial societies, the technical apparatus is not neutral or isolated from the social or political context but rather equally susceptible to all sorts of social and political intent. Technology, in fact, is co-dependent on society's desires. In light of Feenberg's demonstration that technology shares moral and political dimensions with society, while often producing false ideologies, it is still vital to free technology from the idea that it is an enemy to society itself.

The attribution of values to technology is what Feenberg (2008) calls ‘operational autonomy’, namely the formal bias, present in technology when applied to specific contexts. Therefore, negative effects of technological impacts are not embedded in technology per se but in the anti-democratic values of technological development: ‘technology is formally biased only in context rather than in virtue, and the outcomes generated by a technology design are contingent features that emerge when technology is operational in a specific social setting.’ (Kirkpatrick, 2013: 47). Therefore, technology is always contextualised within the social dimension, and although it seems hegemonic it is not the instrument itself but its application which usually reflects the hegemony of a system that ignores human needs and social values. However, it is important to remember that technological effects typically result from choices made by social actors. In other words, while we believe that technology’s efficiency is the reason we use it, most of the time it has been chosen by social actors in a variety of positions, according to certain economic, social and political criteria, which do not necessarily reflect its true potential in terms of performance. In fact, it is counter-intuitive to assume that we use particular objects because they work better when their use is often determined by other contingent factors.¹

In contrast, the substantive theory claims that values in general are diminished in favour of efficiency and instrumentality (Feenberg, 1991). Given that technology is a new cultural environment, it aims to create a new social world that can be more easily controlled. Moreover, this theory encourages a pessimistic where alienation and objectification are the consequences. Through this lens, technology appears to be more than just an instrument. It is conceived as a new way of experiencing the world and is then shaped with new technical meaning. In addition, this approach focuses on the dangerous impact of technology from which there may be no escape.

In either approach – instrumentalist and substantivism – technology appears to possess a rationality in its own right over and above human participation, which limits the idea that technological functionality can aid the development of a better society. Furthermore, both approaches reflect a deterministic vision of technology; it is viewed as a deterministic phenomenon that operates independently and is defined by its efficiency and functionality. However, technology cannot operate independently because shifts in power and interest can alter its functions. Thus, following the determinist approach, Marcuse believes society and historical reality become one-dimensional because he thinks that technology only responds to technically private interests. By doing so, Marcuse fails to grasp that technological phenomena come complete with social and political

¹ Feenberg refers here to the paradox of frame, which can be expressed as follow: ‘efficiency does not explain success, success explains efficiency’. (Feenberg, 2010: 5)

implication. The deterministic characterisation of technology, embedded with substantive and instrumentalist theory, is not convincing because the consideration that technologies have an autonomous, functional logic does not do justice to the positive contribution technology might bring to society, if applied in an appropriate milieu. As technology follows social dynamics, it is possible to disprove the assertion that technical rules and logic can exert control over society. Rather than approaching this field through the lens of alienation, it would have been better to view it from another perspective, by focusing on technology as a result rather than a producer of power. In other words, technology is not the starting point of every exploitation dynamic; the starting point should be how society perceives and approaches technology as a social and political entity that can be intended for discrimination or improvement.

2.1 Definition of technologies and investigation of healthcare as a case study demonstrating the social determination of technology's impact

It is necessary, however, to examine a technological product before proceeding. Technological artefacts are typically distinguished by a primary and secondary purpose (Barrotta, 2016). A missile, for example, is designed to kill, an aeroplane to fly, and a letter opener to cut paper. Nevertheless, these objects may also serve secondary functions. The missile may prevent a foreign military attack, an aeroplane may bomb civilians, and a letter opener may be used to stab. Their primary purposes are less dependent on social and cultural context, unlike their secondary purposes.

An engineer designing an aeroplane knows that the aeroplane's primary purpose is carrying passengers. Conversely, secondary goals are multiple, unpredictable and subject to varying circumstances. Therefore, while primary purposes are predictable because they follow specific functionalities and are largely independent of the social and cultural contexts, secondary purposes are not. Furthermore, the second purposes classify objects as more than raw materials. They become quasi-natural objects with dual natures: the materiality itself, which does not compromise the users involved, and a cultural entity with and its being a social, political and economic features that have political and ethical implications. Technology, in this case, is to be regarded as a cultural artefact since it stipulates a dependent relationship and reciprocity between the social purposes and itself (Barrotta, 2016).

These two ways of conceiving technology are essential to grasping the importance of social influences that can alter how technological phenomena are perceived. To clarify the distinction

between primary and secondary purposes, Feenberg identifies these two determinations as what he calls the *two processes of instrumentalisation*. (Feenberg, 1991: 57) According to the *instrumentalisation theory* (Feenberg, 2005), we can approach technology in two ways: primary instrumentalisation and secondary instrumentalisation, also known as *systematisation*. As well as the primary and secondary purposes, whereas primary instrumentalisation defines technology as an decontextualised object and focuses on the functionality of its design; the latter describes technology as a cultural artefact shaped by its social context and integrated within a system of values and an environment following specific regulations. To put this differentiation into a capitalistic perspective, workers can be seen as part of the primary instrumentalisation because they are treated like raw materials, machines and products of consumption. In this sense, the lack of humanity is demonstrated in the decontextualisation of users from their social and natural environment. The social aspects of technology are therefore ignored, without regard for human and social enterprise, which should consider workers' values and incorporate them into the technology (Feenberg, 1991).

In other words, the misunderstanding of the technological phenomenon as a neutral occurrence derives from decontextualisation, which in turn, allows space for the instrumental and substantive theory to flourish. Once we have disproved these three related concepts (instrumentality, substantivity, decontextualisation), it appears evident that what it means to be an autonomous essence in technology is socially given and contextualised in a specific cultural and historical setting that cannot be neutral. In this case, we need to disregard all the literature that claims the existence of inner technological rationality in material artefacts that create exploitation and alienation. These outcomes are preserved not by the technology but by socio-economic strategies that maintain the social hierarchy. Hegemony is therefore embodied in technology by human agency, but it is not necessarily inherent in technology (Feenberg, 2005).

Therefore, technology's deterministic character, in which substantive and instrumentalist theory are embedded, is not convincing because the consideration of technologies as an autonomous functional logic does not do justice to the positive contribution technology might bring to society, if applied in an appropriate milieu.

As part of this analysis, I would briefly discuss how positive and negative social intentions can affect the use and application of technological devices and digital technology in healthcare.

Since the introduction of digital technology, healthcare technology has become increasingly innovative, having a far-reaching impact not comparable to traditional methods. The introduction of computers has not only expanded medical treatment options but has changed medical practice.

Several developments in the digitisation of healthcare are transforming the future of medicine, including artificial intelligence, 3D printers, virtual reality, nanotechnology and robotics. Human-machine alliances will be essential not only for accommodating future changes in the healthcare system, but also for keeping human beings afloat in an increasingly digital environment. However, many see technology as the only way to revolutionise healthcare, providing cheaper, faster, and more effective solutions to diseases such as Ebola, AIDS, or Covid-19, as we have seen in recent years. Injuries and illnesses, in fact, have decreased significantly due to the simplicity and efficiency of surgical procedures and daily activities. In addition, technology helps organisations automate measurements, allowing them to constantly review their results, identify issues that need to be corrected and discover ways to improve patient care. As part of the technological revolution, trackers, sensors and wearables are expected to improve the future of medicine and patients' awareness of their health – making patients the starting point of care – and are an excellent means for monitoring and taking more control of people's health.

As a result, even though globalisation is generally regarded as negative, it has provided the opportunity for developing countries to increase life expectancy via improvements to healthcare. However, due to rising costs, poorer countries have been unable to keep up with the latest medical innovations.

This problem can also be applied to all Western countries that prefer health care privatisation in order to reduce public spending.

However, it is evident that this negative economic repercussion is not linked to digital innovation itself but to the lack of social policies aimed at accomplishing legislative interventions that seek to overcome the gaps between the countries and the inequalities between the various socio-economic groups.

The solutions applied by governments in the 1960s allowing the introduction of computers in medicine can nevertheless be seen as a sign of hope. Initially, computers were too expensive and unreliable for healthcare. With technology improving and costs falling, nations have provided the budgets required encouraging healthcare organisations to adopt new technology for medical equipment, such as diagnostic imaging machines and routine documentation. Electronic health records have mostly replaced paper ones to facilitate efficient and secure access to health data, such as test results and diagnoses.

Furthermore, multinational technology corporations are moving into the healthcare industry due to technological innovation in medicine. This partnership has enabled the sharing of data collected for health research. Google's artificial intelligence called DeepMind, based in London, alongside Microsoft, Amazon and IBM, is creating a centralised genomic database to permit researchers to

store and analyse genomic data. Despite the humanitarian purpose, the Googlisation of health research (GHR) (Sharon, 2018) – namely, the growing role of tech companies in health and medical research – raises concerns about privacy regulations. The collaboration between Google DeepMind and the British National Health Service in 2015 might be an example. In 2015, Google's AI firm DeepMind was given the personal records of 1.6 million patients at the Royal Free London NHS Foundation Trust to develop software to study and prevent the risk of acute kidney injury. Although under UK regulations, patient data can be transferred as long as they are used for people's benefit (Sharon, 2018), not all the patients were aware that their data was being shared with Deepmind. This event demonstrates the risk of sharing patients' information where it indirectly resulting in corporate profit, creating conflict between users' altruistic consent to donate their data to improve the medical research sector and a company's objectives. In these circumstances, social values, the common good and altruistic behaviour are at stake, implying that more needs to be done to protect privacy.

However, DeepMind justified its action as a 'rush to collaborate on finding new ways to improve care' (Suleyman and King, 2017). Thus, although this event illustrates the two sides to technological application, and in this case, digital information, either as a beneficial or disruptive force, it is also possible to disprove the assertion that technical logic can exert control over society. As we have seen, technology follows social dynamics, which are inner to users' intents and not technical artefacts.

In other words, technology is not the starting point of every dynamic of exploitation, although it is perceived as a social and political entity intended for discrimination or improvement. Unlike Marcuse, a non-deterministic theory that considers technology's empirical reality as a point of departure maintains that technical progress is not predetermined but is influenced by social criteria. Consequently, a better critical approach should open new perspectives on the relationship between technology and society, particularly the socio-economic and political dimensions, where technological artefacts are used and serve to arrange specific power relations. This cultural qualification explains why it is impossible to generalise *a priori*.

To conclude, the decay described in *One-Dimensional Man* is not embedded in technology per se, but in the values that govern technological development. Therefore, since modern technology represents the values associated with a specific civilisation, technology resembles those of the industrial society, demonstrating that the values need to be adjusted rather than the technology itself. Hence, a new model of technical progress is needed, leading to innovation that suppresses the characteristics of capitalism. Rather than limiting technology development through a defensive

approach, as Marcuse implies, it is necessary to foster technology's potential in order to overcome a dual vision when considering technology concerns. In order to do so, however, we have first to dismantle the conceptual errors made when approaching technological phenomena. In the following paragraph, we will discuss the root of the mistakes when referring to technological phenomena, as well as the solutions for making technical codes more aligned with society's qualitative needs.

2.2 Biases and paradoxes of technology

In addition to establishing Marcuse's ambivalence by pointing out the theories he has fallen into and the importance of technology's social nature, the next step will be to illustrate the phenomenon of technology from another angle by emphasising the biases developed when analysing it. In order to do so, I will introduce Andrew Feenberg's analysis and what he calls *Paradoxes of Technology* (2010). Hence, the goal will be to evaluate a theory of technological phenomena that reinforces its social characterisation.

In Feenberg's view, Marcuse's conception of technology appears formally neutral when it is interpreted as an abstract technical element that ignores contextual considerations and historical background. This misunderstanding is related to specific inner characteristics of technology, namely its externality (Feenberg, 1991) . In fact, despite Marcuse's intellectual effort to understand the social determinants of technology, his common misinterpretation in *One-Dimensional Man* is thinking of technical artefacts as neutral and, therefore, external to human activity. In fact, the externality is a technical attribute derived from the illusion that technical artefacts have an independent existence with its logic and intentionality, separate from the human environment. This vision is dominant in Marcuse, who exhibits a deterministic approach towards technical processes wholly fixed in capitalistic society. This consideration is also directly linked to the essence of capitalism, which makes the proletariat believe that technology creates alienation because this attribute is intrinsic in machines' nature.

Moreover, following Feenberg's reflection (2010), misinterpreting externality also derives from the common belief that things are generally distinct from and have no connection to us. Hence, it excludes the fact that the creation of things depends on us and, therefore, on meaning which intrinsically regulates their creation. As a result, things cannot exist independently, neither from us nor each other, because everything is interconnected with its niche.

This concept is what Feenberg called the *paradox of the parts and the whole* (Feenberg, 2010: 3) which by recalling a comparison with the animal world, it demonstrates how the parts or organisms are part of a whole.

To solve this paradox, Feenberg refers to the Heideggerian question which, despite its simplicity, can provide original insight about the phenomenon of technology. By the association of birds with their ability to fly, Heidegger once posed

whether birds fly because they have wings or have wings because they fly
(Feenberg, 2010: 3).

Focusing on first part of the question – birds fly because they have wings – even though we know that air plays a crucial role in bird flight and that birds would not survive without it, our common sense seems to accept the fact that birds can fly independently from the environment in which they live, as they can cope without it and without the equipment they use. The false analogy compares the bird's flying to the aeroplanes we use as human beings. However, this analogy does not make any sense because flying is not just an activity birds do, but it describes their very being. Feenberg reminds his audience of a better comparison between human speech and a bird's flight. Speech is, for humankind, more than an instrument yet it describes our very being equally as flying does for birds.

This also leads to another false implication: birds can fly because of their wings, implying that birds without wings can still survive despite being unable to fly. However, the statement is incorrect, as birds will not be able to survive long without flying, because this action is not something they do, but it describes their essence.

Furthermore, it is impossible to apply any causal laws here, assuming that 'birds fly because they have wings or have wings because they fly' (Feenberg, 2010: 5). In that regard, we have identified the bird's essential relation with its environment. In contrast, we can solve the problem by asserting that birds fly because flying and having wings are the essential characteristics required by and for their existence in a specific niche, which, in turn, requires a specific type of body and mode of existence. As a result, the affiliation between the organism and its environment can only be approached with a holistic understanding due to the connection of the parts with (or within) the system.

We can therefore apply the same assumption to technology, though in a less radical way than Feenberg. Technology, like the wings on birds, is not external but can be understood only within the human environment, sociologically and culturally speaking. In this respect, a species in its niche is as mutually dependent on the environment as a technology is within its symbolic human context; a technology resembles an animal as part of a specific environment and cannot perform appropriately outside that context.

On the contrary, humans do not belong to the technological environment, which sometimes appears to occur naturally in Marcuse's and in Feenberg's findings. Since birds inhabit a specific environment, similarly, technology belongs to the human one engaging and interfering with human actions and choices. However, according to the notion that technology is part of our environment, what appears to be a form of conquest should instead be perceived as synergy based on technology and natural forces; a synergic relation that Simondon (2012) calls an *associated milieu or concretisation* that refers to an environment of technical objects surrounded by natural elements. Furthermore, what makes technical objects function is the relation with natural objects (human beings); they do not exist in isolation, because human beings represent the agents who organise the technical objects and their ensembles. As Simondon clarifies:

The machine with superior technicality is an open machine, and the ensemble of open machines assumes man as permanent organiser and living interpreter of the interrelationship of machines. Far from being the supervisor of a squad of slaves, man is the permanent organiser of a society of technical objects which need him as much as musicians in an orchestra need a conductor. [...] He is the mutual interpreter of all the machines in relation to one another. This is how man functions as permanent inventor and coordinator of the machines around him. He is among the machines that operate with him (Simondon, 2017: 17-18).

As we have seen, the paradox described above – and the paradoxes of technology in general – show technological mechanisms as simple occurrences that society cannot influence. These biases are present in Marcuse's consideration of technology as a pure form, fully conceptualised within a context of manipulation that excludes any successful application of the technical process. By denying the illusion that technologies are simple occurrences, it follows that not only is technology part of a new human recognition – spontaneously caused by the conservative instinct – but it also

suggests that the relationship between dominated and dominant has been reversed. This allows us to consider human beings as not subjected to technological practices – as has previously been argued – and the project of human nature’s technological conquest as being intrinsically paradoxical. As Feenberg elucidates:

These relationships are a bit like those of a part of a machine to the whole machine. The part can be separated from the whole, but it then loses its function. A tire that has been removed from a car continues to be a tire, but it cannot do the things tires are meant to do [...] Also cars and tires are mutually interdependent. The car is not just assembled from pre-existing parts; the car does not ride on the road because it has tires. Rather, the tires belong to the car because the car rides on the road (Feenberg, 2010: 4).

These and other mistakes highlight that the ‘misleading implications of ordinary language reflect our inadequate common sense in understanding technology’ (Feenberg, 2010: 4), and thus cannot stand alone.

Furthermore, the above observation draws attention to the concept of the *medium*, which allows parts of a system to exist. In order to clarify this point, Feenberg (2010) uses the following example: since fish are adapted to the water, they do not realise they are wet. In contrast, human beings perceive wetness because water is not their primary medium, and they take air for granted as their natural medium. From this perspective, Feenberg uses another example comparing water and air for fish and birds, respectively to the human environment, which would be the medium of technological existence. Hence, the same reasoning can be applied to the phenomenon of technology.

Similarly, considering the human niche as a medium for technology, its creation and existence are possible due to the relative human context and the system in which it forms part. However, the fact that technologies belong to our system does not imply that the influence between them and human action affects only one domain of this relation. In fact, technology influences us and vice versa through a mutual relationship. In Feenberg’s words: ‘these are causal side effects of technology, changes in the meaning of our world and in our own identity’ (Feenberg, 2010: 6).

Applying this analogy to the technological phenomenon is quite helpful to understand the mediation and the mutual influence between the human niche and technological factors since every action of

technological artefacts and human beings alters the system in which they participate. As a result, their mutual actions charge technical artefacts with socio-political and cultural meaning that is conveyed from society to technology, making technology a cultural product to a large extent. Technology does not exist separately from humankind, but is its extension; it does not transcend mankind because it is a special part of it. Referring to the analogy above, human beings are the medium within which technology operates (Feenberg, 2012).

Although technologies are instruments created to resolve practical problems, they cannot be fully understood through functional terms alone because external instructions, containing cultural artefacts, influence their technical automatisations. As the *paradox of the origin* shows (Feenberg, 2010), technologies evolve not only through mechanisation but are developed under certain conditions to meet social needs, which in turn are technologically embedded. Hence, while technological artefacts appear self-sufficient in their rational functioning, they respond to social requirements, thus becoming social, political and cultural entities. This explains why the responses of technical devices change according to society's requests. Therefore, technology can be socially, politically and morally charged, as London Winner (1986) shows in the example Moses's Bridge, where technological arrangements play a role in social actions and embody human intention.² Therefore, they become something different from their original intentions, switching from 'immediate objects to mediate cultural and social objects. As cultural artefacts resemble social behaviours; for instance, knives, forks, and spoons are not just strips of metal, but imply a whole system of eating behaviour with respect to which every meal is a performance' (Feenberg, 1991: 82).

As Feenberg claims:

Through our body and our social belonging, we participate in a world of causal powers and meanings we do not fully control with causal effects that change the meaning of our world and even our own identity. This observation brings us back to our first three paradoxes. The paradox of the parts and the whole states the importance of the niche

² *Do Artifacts Have Politics* (Ihde, 1986) explains how the Jones Beach-Long Island Bridge built in New York has racist implications. As such, the bridge was designed to allow cars to cross, excluding buses, usually used by African Americans, so that the beach would only be accessible by those with cars, namely White Americans. This example illustrates how technical artefacts can have a political effect with an evident moral consequence. Despite the controversial notion that technology is political, the outcome of using the bridge only reflects the human intention, namely to exclude Black people from the zone reserved for whites.

and the context. The illusion of independence arises from the nature of technical action which dissipates or defers causal feedback from the object. Indeed, the whole point of technology is to change the world more than the actor. It is no accident that the gun harms the rabbit but not the hunter, that the hummer transforms the stack of lumber but not the carpenter. Tools are designed to focus power outward, on the world, while protecting the tool user from that equal and opposite reaction as proclaimed by Newton (Feenberg, 2010: 6).

Nevertheless, our niche is not necessarily prepared to contain all technological reactions. Environmental pollution is a case of the inability of our environment to absorb the impact of technology, such as the consumption of goods. This problem is still related to the common thinking that since technology is something external – the paradox of the parts and the whole – it will not harm the environment. Yet, instead of correcting our actions, we still blame technology for its impact, believing human beings can act without there being consequences for their decisions. As both human beings and technological artefacts can only act on a system to which they belong, they perform – whether beneficially or not – in their created environment. Human action through the application of technology does not represent a way of escaping from social responsibility but actually demands that people face up to the various implications of the technology they use. To enable interaction between material artefacts and concrete experience, we need to reify technology instead of escape from it.

In order to escape the hegemonic use of technology, society must create a new technical code (Feenberg, 1995), namely the code social actors impose on artefacts to meet their standards. Therefore, to promote another technological code in a new political and economic system, it is necessary to rethink the complementary relationship between those who hold technical knowledge and those who receive it, namely the designers and users, or the capitalist and the proletarian in a Marcusean framework. This relation mirrors what Feenberg calls the *democratic paradox* (2010), where every actor in society can play a role in determining which values need pursuing to achieve beneficial civilisation change. Specifically, the concept of democracy became clearer within the labour movement, where for radical social change to occur, the values embedded in technological application are no longer decided upon by a single social class, but by all classes. Therefore, technological determinism in Marcuse can only be broken by applying a new, democratically planned technical code instead of a market-oriented one; where individual needs are not subjugated to market values and human potentialities suppressed by capitalism.

In fact, this approach emphasises how technological tools can be designed, implemented and used for more humanitarian purposes, focusing on the ethical values that technical functions can support. In Feenberg's opinion, Escher's *Drawing Hands* demonstrate how society and technology build their identities symbiotically.



Figure 2.1 Escher's Drawing Hands

The social phenomenon described in the drawing is what Feenberg calls *the strange loop* (Feenberg, 2010: 13) and it explains the paradox of the action of hands joining the experience of drawing themselves. This process reflects an entangled hierarchy which repeats itself in a loop in any direction where social groups can shape technology design through their value choices. The drawing subjects and the drawn object constitute together democratically without power games so that both cannot be approached in isolation. Marcuse's view cannot be applied to Escher's Drawing hands, as the relationship between technology and society would involve only one hand, rather than both. Based on Marcuse's deterministic view of One-Dimensional society, only the upper hand (technology) is capable of imposing its will on the other (society).

In a political sense, the extension of democracy to technology means that technical mediation will no longer be confined to a controlling society but can be used for humanitarian purposes. The way we approach technologies and how technology acts express particular ascribed values. Therefore, eliminating technical inconvenience or developing critical theories will not work. Considering that technical knowledge and experience are not complementary, it is necessary to translate the value system into a technical language designed for the future to satisfy yet unmet needs with technology (Feenberg, 2012).

2.3 The incorporation of technology into human agency

Having demonstrated the social components influencing technological functionality, as opposed to a determinist approach, this section highlights the concept of agency embedded in technology. This leads to key enquires into the characterisation of technology as an agent or co-agent, a tool to extend human agency, especially when it functions on behalf of human beings to realise social purposes. The notion of agency is essential to deepen the sociological dimension in the philosophical investigation of technology. According to this view, technologies are designed with specific functionality and instrumentality to perform tasks on behalf of their users, enhancing and augmenting human intention in a concrete manner.

Although Marcuse never mentioned the concept of agency in relation to technology, the idea can be deduced from his critical thinking, which permits the assumption that technology mediates human intentions. From this it follows that technologies are implemented in a specific social context. Therefore, given that technology is involved in human agency and is socially charged, it can be deemed a form of agency that participates in the carrying out of human activity. Thus, the main objective cited in *One-dimensional Man* – that technology represents a form of domination – is no longer justified, as any form of control derives from human intentions instead of instrumental devices.

Furthermore, agency is closely linked to the concept of co-shaping and mediation (Verbeek, 2011). If technologies are not merely instrumental, as a consequence society can actually shape their use and technological tools in turn can shape social actions. Additionally, as part of a two-way alliance, technical artefacts co-shape the world following the goals set by human agency, altering the perception of human environment and ourselves.

In order to understand the sociological relevance of technology, avoiding Marcuse's externalist view, it is then necessary to reflect on the phenomenon of technological mediation, which is the combination of Feenberg's concept of *medium* (2010) and *Mediation Theory* (2011) of Peter Paul Verbeek.

Philosopher of technology Peter-Paul Verbeek, argues that technologies are not social agents in themselves, but only in relation to humans, such that the loss of the relationship between the two domains undermines the existence of the agency itself. Furthermore, according to Latour (1992), the social agents is distributed both for the humans and things so that the agency is diffused not for or by itself, but always by and for other things.

The so-called *Philosophy of Mediation* (2005) has been developed in recent decades to recognise the social aspects of technology as it connects us to the world and organises how we perceive

experience and human behaviour. In fact, technological mediation places technology between humans and their world. It also focuses on the mutual shaping of technology and society, moving on from the classical fear that technology will determine society equally it doesn't marginalise the role of technology to mere instrumentality – two aspects which are present in Marcuse, as I have attempted to show. Mediation facilitates an understanding of how technologies are used in the social context and how the latter alters their functionality, keeping in mind the interconnection between the human and technological spheres (Verbeek, 2021).

The nature of mediation has been analysed by philosopher of technology Don Ihde (1990), who has investigated how technologies play a role in this mediation, ranging across four relation types; the embodiment, hermeneutic, alterity and background relation. Briefly, the *embodiment relation* is based on the notion of transparency, and it can simultaneously broaden or reduce the experience of the human body in words through technology. Ihde writes: 'My glasses become part of the way I ordinarily experience my surrounding. My awareness of wearing them is a fringe awareness that gets interrupted only when the glasses slip off my nose' (Ihde, 1990: 73).

This concept continues through the so-called *hermeneutic relation*, where users experience the world through their interpretation: we have to interpret the temperature by reading a thermometer. In this circumstance, technology represents the world for us. Moreover, this relation requires not only representation, but also interpretation from the user who decodes technical information. This relation is hermeneutic because it helps human agents to perceive the world not through but by means of the artefacts.

The *background relation* includes those technologies that function without requiring direct human interaction – they work in the background and contextualise in a specific setting (e.g. refrigerator, air-conditioning or heating systems). In this relation, people do not consciously experience the technical artefacts as they are absent and present simultaneously. Their existence is usually experienced when they stop functioning. For instance, the light system in a house is not noticed when it is off, but we notice it when the system breaks down.

Finally, the *alterity relation* interprets technology as a quasi-order as it shows a sort of autonomy when interacting with users. Neither technical artefacts nor humans interact with the world, which is in the background. Moreover, human beings have no relation to the world through the artefact, but establish a direct connection to or with the technology itself. According to Ihde, taking money from an ATM is an example of humans interacting with technology, without any relevance to the world around them (Ihde, 1990).

However, improving technological devices will increase the number of possible relations that remain unknown.

In other words, only by crossing the division between society and technology, can we understand the relevance of social impacts on technology and vice versa, and avoid the mistake of locating social impacts of technology in the material world rather than in human affairs. In fact, technological mediation is always context-dependent (Verbeek, 2011).

However, despite dependency on context, technology preserves a small portion of independency when it can be used in various ways to accomplish the same social purpose. As Ihde suggests, technologies are characterised by a kind of robustness (Ihde, 1990: 141) that can be accidentally misinterpreted as intentionality. In fact, they direct and frame human actions into specific scripts, making it almost impossible for users to return to the pre-technological world once the influence has occurred. Similar to Winner's example of the bridge, this technological inclination demonstrates that technologies can reflect the political or cultural messages established by the society. It should be noted, however, that what we think is technological intentionality reflects instead the social determination of technical operation, which is evidence that excludes any neutrality from the process. Hence, in addition to the lack of inner technological rationality - discussed in the previous paragraph - technology also lacks intentionality, since what appears to be technological intention merely reflects mediated human intentionality in a specific context (Ihde, 1990).

As technological devices are always context-dependent and interpreted by their users, they lack any technical identity or essence. This is why technological artefacts can be applied to different environments or used in different ways to solve the same problem. Don Ihde calls this phenomenon 'multistability' (2001), meaning that technological artefacts can have multiple stabilities. In fact, unlike other social phenomena like language that cannot be removed from the specific cultural milieu, technologies are universal because they are easily transferred from one setting to another. As a result, technological artefacts need recontextualising in new contexts, as failure to do so is often the cause of many socio-economic and environmental issues. Don Ihde writes:

A technology can have several 'stabilities', depending on the way it is embedded in a use context. Technology's multiple stabilities serve to highlight technology's very context-dependent and materially-situated relationality. Technological 'intentionalities', therefore, are always dependent on the specific stabilities that come about (Don Ihde, 1990: 9).

Therefore, the central question of multistability is how to understand the non-neutrality of artefacts. Since material artefacts can be used for various purposes and can be meaningful in different ways to different users, the materiality of the device constrains the potential relations to only certain uses and meanings. The standard example of multistability is the Necker cube (figure 2.1) visual illusion.

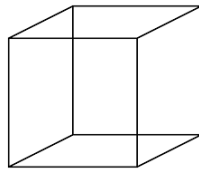


Figure 2.1 The Necker cube

Though first developed as an account of human perception in Gestalt Psychology, this illusion is useful to understand the concept of multistable technologies, as the cube can be interpreted in more than one way, either as a three-dimensional box or two-dimensional flat object. The cube shape can be recognised as a separate stability in which each face appears individually in terms of a visual gestalt and it is stable in multiple ways. Similarly, a hammer has different purposes depending on the context; it can be a piece of art, a murder weapon or simply a tool (Ihde, 1990).

However, the non-neutrality of technology seems to recall a return to a substantive approach of autonomous technical artefacts, in a sense justifying Marcuse's point. Nonetheless, due to the lack of essence - that substantivism generally claims when considering the negative impacts of technology on society - the tension between multistability and substantivism is only apparent here.

The concept of multistability does not apply to Marcuse's definition of technology. Multistability, in fact, implies that technology has no essence, nor is it independent of human agency, which Marcuse counters in *One-Dimensional Man*. In the latter, technology has a fixed essence that perfectly adheres to the system's hegemony. As a result, Marcuse's definition of technology does not contemplate multistability.

However, in looking at this concept through Marcuse's lens, the ambivalence seen when judging technology reappears in these circumstances. In this case, since multistability refers to the ability of technical artefacts to be applied to various contexts and at different levels of stability, it follows that the application of this phenomenon depends on whether it is viewed from the standpoint of *An Essay of Liberation* or *One-Dimension Man*.

In *An Essay on Liberation*, if technology can be a great vehicle of liberation if applied in different social settings - due to its socio-determination - it implies that this vision is consistent with multistability. Saying that technology can have different outcomes - either as a form of liberation or oppression - according to the context is the same as saying that it has different stabilities. In *One-Dimensional Man*, instead, multistability would not have any application because, despite the context, technology will always show the same hegemonic attribute. Therefore, when mentioning multistability, Marcuse would encounter the same ambivalence when approaching his vision of technology.

Moving to the dimensions of technical mediation, Ihde (1990) identifies two aspects, namely experience and praxis, and each is studied from two philosophical perspectives, namely hermeneutics and pragmatism. These perspectives reflect how human beings are in their world through technology and how the world interacts with and for them.

Based on the experience perspective and the hermeneutical approach, technologies actually determine how the social environment becomes meaningful to human beings and how reality is perceived and interpreted. Sonograms, for instance, reveal the foetus as a potential patient and digital technologies change the way we interpret political and ethical issues and form our opinions. Moreover, technologies provide a representation of reality requiring human interpretation. For instance, by reading a thermometer we can interpret whether it is cold or hot, although we may not directly experience these sensations.

In the praxis approach, technology mediates human actions and practices. In addition, it plays an important role in how humans are present in their world through technology (Verbeek, 2011). Thus, mediating practice has many implications since technology is involved in almost every aspect of human existence; through human actions, technology mediates the world's knowledge and the ethical questions we ask ourselves, challenging the basic categories of our thinking. It also facilitates the understanding of the state of our decisions. As a consequence, human actions are co-shaped by technology instead. Thus, as Latour mentions: 'actions are the results not only of individual intentions and the social structure in which human beings find themselves, but also of people's material environment' (Verbeek, 2011: 10). From this point of view, the profound impact of technology on society and human existence charges users, designers and policymakers with the responsibility to actively engage in shaping and regulating this impact. Therefore, the praxis mediation reveals the importance of responsibility and of asking ourselves ethical questions when designing technology, since this operation implies making ethical decisions.

The core of the Mediation theory to consider technologies as a form of mediation derived from human agency can be indirectly extrapolated from Marcuse's vision of the role of technology. Whereas, in *An Essay on Liberation*, mediation is more evident, especially in admitting that negative attributes stem not from the machines but from the social actors; mediation is harder to find in *One-Dimensional Man*, since technology imposes its control on society as an entity with an external essence. Therefore, as well as the concept of multistability, the notion of mediation presents the same dual approach that distinguishes Marcuse.

As a result, these two aspects of technological mediation – experience and praxis – and their methods – hermeneutics and pragmatism – are closely connected. The praxis dimension, concerning human actions and practices, cannot exist without the hermeneutical dimension, concerning human interpretations and perceptions. Combining these two approaches, technologies are seen as mediators that actively shape human realities and behaviours, which in turn are not determined by technology, but rather co-shaped by it. Thus, technology contributes to social change not only by providing means but also promotes the forming of new ends (Ihde, 1998).

To conclude, technological agency is not created by deliberate technological decisions. Its agency is socially derived, and it is designed to work in a particular way. In other words, this agency is not a technological attribute since it would not exist without human intervention. Technological agency cannot anticipate *a priori* human interaction because it comes into being when combined. This also implies that human agency would not be possible without technological interference. According to Latour (1992), technologies have agency when they relate to other agents, as their social role is determined by their relations with their users and the environment in which they operate. In this way, mediated agency is always the result of human-technology interactions where human agency is distributed among technologies and vice versa. Thus, social decisions are the product of human-technology associations.

2.4 Towards a transactional relation of society and technology and the relevance of Pragmatism

After defining the role of technological agency and mediation, this section focuses on the nature of human and technological interaction, which is best understood as a whole rather than two separate elements, as suggested by Feenberg. In this respect, technology becomes more than a human

activity, but rather a relational process resulting from social purposes and decisions. Therefore, because technology's functionality depends on relational states between an individual and their environment, we can recognise technological artefacts as both social and relational entities.

Furthermore, the relationship between an organism and its environment, mentioned in the previous paragraph, illustrates how human-technological relationships are transactional rather than interactional. Unlike the latter relation, which views organism and environment as independent entities with interaction as a third element intervening between them, a transactional approach assumes that all three elements (technology, society and interaction) should be considered a single entity in the same system. Therefore, changing the focus from interaction to transaction provides insight into the nature of this human-technology relationship, drawing attention to the latter domain (Barrotta, 2016).

Since changes in the former can only be understood through changes in the latter, the transaction requires society and technology to accept each other in totality. This point essentially reinforces once again the idea that technology is part of the human milieu against any externalist or deterministic tendencies Marcuse approached. In other words, technology is not a pre-constituted subject, but takes shape only in relation to its social environment, which in turn is the result of multiple social actions and decisions.

Therefore, technology cannot be separated from the human environment because technical artefacts' functionality can be interpreted within only the social context and their mutual connection. Hence, the theoretical basis for this analysis is to consider technological phenomena as components of the human setting (a transactional approach), and disregard the interactional perspective, which describes technology as separate from society. As a result, developing a correct method to apply when investigating the nature of their influence prevents us from falling back into previously mentioned mystifying positions: 'Wanting to study an organism in complete separation from its environment would be like trying to study an electric clock hanging on a wall, ignoring the current wire that feeds it' (Dewey, 1975: 141).

Therefore, the focus is towards breaking down the dominance of the interaction, which has always been asserted dogmatically by those who have considered technology as an external element and separate from the human environment. As a consequence, the application of the transactional relation aims to achieve two results: the overthrow of unilateral, theoretical formulations of the relationship between technology and society that are typical of Marcuse's work; and the freedom to assume a close connection between social goals and technological outcomes, within a theoretical framework based on transactions.

Human life itself consists of transactions in which human beings participate together with a milieu of non-human things together with other human beings, so that without this joint participation of human and non-human beings we could not even live (Dewey, 1975: 312).

This illustrates the necessity of pragmatism like endorsed by Ihde as a mechanism which, through applying the transactional model, allows us to overcome the dualism between technological neutrality and social influence (Barrotta, 2016). Therefore, pragmatism becomes an essential element in questioning the concept of technology neutrality from human intentions. If the problem is the neutrality of technology, the dichotomy between society and technology does not clarify anything; indeed, it greatly confuses the nature of the relationship. In fact, the neutrality of technology endangers society itself. Thinking that social agents can choose and implement their intentions without considering the technological implications of their choices – precisely because they intend technology to be neutral – is the reason why social choices escape ethics and reason. Therefore, actors must always consider the consequences of their actions and decisions. Pragmatism emphasises this message, which is associated with the concept of responsibility in predicting our actions and their effects, which are always epistemic, and technological influence can only highlight them.

Pragmatism calls to experience. As soon as we consider that technology is part of human activity, we must conclude that it cannot escape the general conditions of every human activity: that is, the fact we are guided by choices inspired by moral values and ethical judgments (Barrotta, 2016).

In the following paragraph, we will summarise Marcuse's viewpoints and compare them to the new perspectives we have discussed so far.

2.5 Closing the gap between *One-Dimensional Man* and *An Essay on Liberation* in the analysis of technology

Having proved that Technology has social attributes makes it possible to show that Marcuse needed to make a similar transition vis-à-vis technology that he did for other elements of his thought, as he moved from the pessimism of *One-Dimensional Man* to the optimism of *An Essay on Liberation*. Despite Marcuse's emphasis on the socio-components of technical artifacts, expressed in the other essay, the ambivalence in *One-Dimensional Man* can only be resolved by clarifying the social characterisation of Technology.

Noting that social consequences cannot be limited to technology instrumentality, the formulation of substantive and instrumentalism in Marcuse's works can no longer be accepted. The key core of *One-Dimensional Man* - namely social control and exploitation through technical rationality - is also disproved, considering that cultural and historical context is the primary influence on technological functionality. Therefore, we can resolve the inconsistency of Marcuse's contribution to studying this phenomenon by affirming that instead of approaching this field through the lens of alienation in *One-Dimensional Man*, it would have been more constructive to focus on technology as a consequence of exploitation and control rather than the producer of it. In other words, technology is not the starting point of every exploited dynamic but the ending point of it; a concept instead explained in *An Essay on Liberation*. Moreover, assuming that society's intentions shape technological artefacts, the basis of Marcuse's ideological constructions should have focused on the social values that drive its impact on the world rather than on the machines' rationality.

In actuality, we can agree with Marcuse on the fact that technology has significant effects on the human essence in general. However, to rebut, we can argue that technology and society are not two separate forces but the result of a union that defines and links them reciprocally based on the meanings society projects on technology. This socio-cultural qualification explains why it is impossible to generalise *a priori* about its disruptive forces. Despite their role in solving practical problems, technologies cannot be fully understood functionally due to external instructions containing cultural artefacts that influence their technical automatisations.

Thus, Marcuse missed the mark on a deeper understanding of society and technology in *One-Dimensional Man* and neglected putting it in the proper context. The view of technology he presents in *An Essay on Liberation*, on the other hand, seems more accurate, though he still views technology as an independent entity. Perhaps, in starting to see it as transactional through a pragmatic lens demonstrates how technology is primarily determined by sociodynamics that is then shaped by technological outcomes. Instead, he seems to have solely focused on the interactional relationship and thought where influence could go from technology to human

activity, not vice versa. He should have aimed his considerations to both poles by focusing on connection and interrelationship to better understand the social implications of technology and what the phenomenon of mediation in society implies. Technology cannot deliberately decide on its effects; however, we can decide how to respond to affects we are perceiving. Therefore, as philosophers of technology point out, when mentioning Marcuse's contribution to the investigation of technical phenomena: 'Artefacts can only be causally responsible for a given action. Artefacts do not possess intentions, and therefore they cannot be held responsible for what they do.' (Verbeek, 2011: 42) By considering the agent role of Technology and our responsibility to deliver social goals and meaning, we can make justice to the hybrid character of our actions. This proves – in opposition to *One Dimensional Man* – that human beings are not passively subjected to technological mediation but can actively co-shape their mediated goals with technology in their daily lives. The relation with technological artifacts does not imply that people are victims of technology nor that they need to escape or deny its influence, but as we have seen from the methods used, we need a hermeneutic approach to interpret the meaning of technology in which our actions take place, and in the pragmatic approach to consider the impact of our action in technological terms.

Therefore, a critical theory, as Marcuse intended to build, that aims to take the notion of exploitation and alienation via technology and the active role of machines as part of capitalist dynamics seriously, cannot entirely reject the importance of human intentionality and the idea of human responsibility.

To conclude, the human technological control project described in *One-Dimensional Man* is intrinsically paradoxical since humanity is no longer subject to technology. Material artifacts are, in fact, part of the goals and intentions established by society, which is free to choose their influence.

Conclusion

This thesis has aimed to clarify the role of technology in Marcuse's works, who has been one of the first philosophers of the 20th century to understand the socio-determination of every dynamic of control in the capitalist system.

This analysis has sought to understand the social characterisation of technological phenomena in light of social dynamics. Furthermore, by challenging the Marcusean deterministic view, the project stated that technology is not only an object human beings usually interact with, but also a mediator between people and the world.

Thus, the thesis centred the question of Marcusean Technology on technological mediation. Approaching technologies as social entities has important implications for understanding notions like agency and responsibility regarding the interaction between human beings and technologies.

Therefore, in this thesis, the instrumental character of technology is replaced with an approach that emphasizes the mediated role of technology departing from human actions and goals. We have seen that Marcuse depicted the social nature of technology, but sometimes viewed it as an external force. Therefore, this research project wants neither to let technology determine humanity nor to protect humanity against technology; instead, it aims to develop a free relation to technology by learning to understand its mediating roles and to consider it when designing, implementing, and using it.

While it is shown how society and technology are interwoven, and tried to underpin the socio-determination of technology, I have yet to develop a framework which incorporates the concept of human responsibility when considering the actions, we want technology to embrace.

Co-dependency, or transactionality, proves that technology does not represent a way to escape social responsibility but actually calls people to face the different implications of technological use. In fact, although technology can help us mediate responsible actions, its mediation does not diminish human responsibility.

For further reflection, the challenge that technologies impose upon us is to accompany their development adequately. Instead of opposing technology, we should understand the responsibilities of our practice when allowing it to interact with technical artefacts.

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