Artikulu honetan gogoeta bat planteatzen dugu egungo sistema sozio-teknikoak zein modutara elkar harremantzen diren batetik irismen globala duten egiturazko baldintza sozialekin eta bestetik lurralde zehatzen historiarekin, etorkizuneko ongizate aukerak definitzeko aukerak dimentsio honi lotuta dauden heinean. Nerbio ibaiaren Ezkerraldearen ingurunearen kasua ikertuz, etorkizuneko ongizate-teknosistemek aurre egin beharko dieten disonantzia sozio-kultural hainbat irudika daitezke.

Giltza-Hitzak: Garapen teknologikoa. Aldaketa soziala. Aurreikusi gabeko ondorioak. Desindustrializazioa. Identitate kulturala.

Este artículo reflexiona sobre la forma en la que interactúan los sistemas socio-técnicos tanto con las condiciones socio-estructurales cambiantes que tienen un alcance global, como con la historia de los territorios concretos que delimitan sus posibilidades para la definición de un futuro en términos de bienestar. El caso de estudio de la Margen Izquierda del Nervión permite ilustrar algunas de las disonancias socio-culturales que deberán enfrentar los tecno-sistemas de bienestar del futuro.

Palabras Clave: Desarrollo tecnológico. Cambio social. Consecuencias imprevistas. Desindustrialización. Identidad cultural.

Cet article réfléchit à la manière dont les systèmes socio-techniques interagissent tant avec les conditions socio-structurelles changeantes qui ont une portée globale, qu'avec l'histoire des territoires spécifiques qui délimitent leurs possibilités pour la définition d'un avenir en termes de bien-être. Le cas d'étude de la Rive Gauche du Nervión permet d'illustrer certaines des dissonances socio-culturelles que devront affronter les techno-systèmes de bien-être du futur.

Mots-Clés : Développement technologique. Changement social. Conséquences imprévues. Désindustrialisation. Identité culturelle.

Distant Futures and Situated Identities: Unforeseen Consequences of Technosocial Systems in the Left Bank of Nervión River

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Introduction

The editors of the monographic issue for the International Journal on Basque Studies in which this article is included raise a debate on the impact of major *techno-social systems* and the role played by these in the emergence of *social welfare techno-systems*. The definition they provide of the object of study indicates that "Techno-social Systems are infrastructures composed of different technological layers that interoperate within society in order to offer global, public (rather than private) services of a technological kind and which carry out their operations both in the material and in the virtual world"

Although the proposal is clear, delimiting the concept is not an easy task. From a formal point of view, and even with somewhat baroque language, the terms of the debate are posed in the following terms. "The totality of techno-social systems and the social settings in which these are implemented and function are usually modelled as networks that consist of certain segments of the population, interconnected through exchanges via these techno-social systems. Furthermore, Techno-social Systems are subject to the applicable social regulations and to the market developments that operate in each time-space, sharing their values, goals, public/private tensions, etc".

For the authors of this article, and based on the structural approach of social change, what is written above is provocative. Before entering into the thematic aspects of the monograph, it would be useful to clarify some aspects to explain our position.

The promises and expectations linked to the development of large techno-social systems hint at an empirical value that is not clear. The lack of consistent evaluations of the results they achieve make us wonder if what is proposed manages to go beyond an attractive but cold conceptual framework that is not empirically verifiable. The object of the analysis is open, but it is difficult to clarify the terms of the debate if the conceptualization does not correspond to an empirical reality that can support it.

It is necessary to look closely at the theoretical foundations supporting the viability of the goals proposed by techno-social systems. The reality is not, in some cases, empirically visible. However, some of the effects they generate are visible to the extent that every of them suffer the effects of the unforeseen consequences of their action. What empirical monitoring of techno-social systems shows is that the arguments are based on paradoxes that cannot always be managed. We particularly refer to the degree and to the value of the vulnerability and the uncertainty with which these systems must function, the speed of mutations, the acceleration with which they develop, and the flexibility that is demanded.

The perspective we consider connects with a consolidated sociological tradition dedicated to the study of the generalisation of expert systems in all spheres of modern life. Expert systems currently possess a high degree of technical and operational sophistication with the goal of generating a sense of reliability and the general perception of trust. In fact, we lean on them in our daily lives, which provides us with a framework of regularities and of stability for carrying out habitual activities such as mobility, providing food, and entertainment. However, Giddens (1990: 131) reminds us that, despite the dominant presence of expert systems and the considerable trust we invest in them, the overall risks are also "key elements of the runaway, juggernaut character of modernity, and no specific individuals or groups are responsible for them or can be constrained to 'set things right".

Our working hypothesis is that the major techno-social systems cannot steer the unforeseen consequences caused by the actions they trigger. Some examples are significant; supply chains suffer from blockages and fluctuations that can detain international flows of goods, coming to act as creators of entropy. If the foundations of the chain are weakened, then the system of networks will require reform or, in the most extreme case, disappear.

In other cases, the origin is in problems within the production chain, due to systematic flaws provoked by qualified or unqualified personnel, difficulties in terms of regulating the productive environment, inadequate legal frameworks, local or global political tensions, the unforeseen power of the competition, systemic flaws in the processes of accumulating goods, or the lack of accumulated expert knowledge. The causes that generate deficiencies and distortions in highly sophisticated techno-social systems are not only of a technical nature, to the extent that social, economic or political considerations are inextricably linked to the development of the systems themselves and the innovations that they promote (Callon, 1998). In fact, techno-social systems have a full social embedding on legal frameworks, practically constant local or global political tensions, the power of unforeseen competition, systemic failures in the processes of accumulation of goods, lack of expert knowledge to face the problems accumulated or contradictory social attitudes towards technological progress.

Problems may emerge that harm systems which seemed stable. There may be accidents that were not planned for, for example, the explosions that damaged the pipelines carrying gas from Russia to Europe, systemic problems with Nord-Stream-1, closure or overwhelming of strategic airports (Munich or Frankfurt at Christmas 2022), entropy building up in health policies (stresses caused by Covid-19, particularly in hospitals and care homes for the elderly). The pandemic has shown us that health security is a good that can fail. There are other well-described symptoms of the difficulties in extending well-being through the development of techno-social systems –alcoholism, problems with drugs, suicides– that imply "deaths of despair" (Case and Deaton, 2020). Other consequences can be detected in the saturation of traditional health resources: a lack of essential care doctors, the deterioration of diagnostic technology, a crisis in health management models, the funding of public resources, etc.

There are other areas where major techno-social systems are less effective, for example in depopulation processes –empty human habitats and geography–, demographic changes and generational succession. Other causes and reasons caused by inequality can be cited, not only inequality of structural origin but also (Dubet, 2022) inequalities that affect daily life and which redesign new or novel spaces of social confrontation (for example, the yellow vests, employment crises, health conflicts). There are, of course, other frameworks with open questions in terms of the consequences they cause, for example the use of AI in production chains, in new factories and in daily life (Echeverría and Ugalde, 2020).

Working society undergoes changes that are hard to understand and, in many cases, withstand. Global governance, and local, national and global politics suffer from "material fatigue". Liberal democracy is undergoing stresses that lead many citizens to think of deterioration, or which causes them to lose interest. Its truths produce disputes regarding its meaning; the responses of populism, illiberalism and the reconstruction of global power are three overarching facts that leave little room for the programmed action of techno-social systems.

Other structural aspects, some of them relating to the present moment, can be provided as examples and which give rise to the question of whether, in reality, techno-social systems designed for the smooth running of the welfare state can meet their self-imposed obligations. This article's strong hypothesis is that *the proposal contained in the techno-social systems of social welfare collides with its own good intentions*. In our case, we propose, based on the value of the hypothesis regarding techno-social systems, a review of the deindustrialisation processes that affect and have significant consequences on the Left Bank of the River Nervión in the historical territory of Biscay. The research question tackled by the article is: after the disappearance of the factory –Altos Hornos de Vizcaya–, the shipbuilding industry –Astilleros–, capital good manufacture –Babcock Wilcox–, etc, and hundreds of auxiliary businesses, what space and what future await the industrialized Left Bank of the Nervión? Will leisure, service, consumption and entertainment industries be functional replacements for the large factories? It seems

to us that the techno-social systems face the weight of history and the age-old industrial tradition without enough resources to deal with the goals they set for themselves.

1. The Welfare State and Socio-technological Operations

1.1. Welfare as an Assumption

The explanation of the value of techno-social systems is achieved based on dimensions that grasp the world by means of complicating it and via perspectives that open up to interdependence, complexity, connectivity, acceleration and speed, governed by the axiom that change can be explained by change. The ruptures introduced by these processes come face to face with the social contract that is in the foundation of Western societies, whose cohesion in the last few decades is dependent on calls to sociopolitical legitimization provided by material well-being, quality of life, full employment, education, ascending social mobility, the redistribution of the wealth produced by economic growth and democratic culture. These mechanisms operate as motorways allowing the circulation and construction of economic, political, social and cultural milestones of modernity, at least on the European continent (Gurrutxaga and Galarraga, 2022).

The faces of the above-mentioned social contract are economic growth, social development, the power of the technological imperative, rising social mobility, the restructuring of forms of social organisation, the redistribution of wealth, the power of radical pluralism, the persistent cohesion of the political and the requalification of the State and the Nation.

The image of the welfare-based social contract combines social spheres and situations. The economy, for example, bases legitimacy on individuals' trust in the "system" and in the link with full employment, the redistribution of wealth, high-quality governmental and social institutions, civil liberties, democratic forms of life and rising social mobility. The aim is not for the welfare system to end all social ills or implement equity across the board, but rather that undesirable consequences in the redistribution of wealth be controlled and that citizens access part of the wealth produced.

The breakdown of trust in the system happens when full employment is no longer a right, and it becomes instead an aspiration. Comparisons among countries and territories offer the lesson that there are rich societies –for example, the USA and Arab oil states– that have poorer performance in terms of redistributing income and wealth than other, "poorer" societies. This indicates that rates of economic growth are not sufficient to effect the redistribution of wealth created, or to reduce the distance between richer, middle and lower classes. Welfare mechanisms are also political and socio-cultural mechanisms and they are linked not only to the way in which economic goods are distributed, but also to the architecture and resources of power (Piketty, 2022).

As economic growth loses intensity, funding the Welfare State becomes more precarious. With this development a process emerges of reviewing the institutional model, in the direction of reducing public services, and also reconsidering social policies, incorporating into them criteria of technological, financial and monetary profitability. There is movement in the direction of deregulating labour markets and the rules governing labour contracts; there is a tendency towards reducing taxes; monetary and fiscal policies are established whose designs have the aim of reducing the public deficit; inequality grows, etc. In short, the utopia that aspired to balance economic prosperity with guarantees in terms of the equality of opportunities ceases to be a goal (DeLong, 2023).

1.2. Looking at the Present

On what considerations is the reading of the hypothesis that we propose based? When it comes to describing the present, it is not easy to find clear reference points containing consistent empirical foundations. There is a diversity of viewpoints and voices that propose new conceptualizations about emerging technological and social trends, but these seem volatile due to the lack of a firm empirical foundation. There is, nonetheless, a proliferation of studies into and analysis of the future. It is asked of these definitions that they clarify the present in order to be able to guide the next political action towards the salvation of humanity (Morin, 2011), when if there is anything that is indefinite, confused, vulnerable, subject to contingences and the power of chance, it is the definitions that can be made regarding the world of tomorrow (Gurrutxaga, 2010).

We argue that the world being created by techno-social systems has two main concerns from the social point of view: i) how to tie up what has been loosened and made dissonant in the digital society; and ii) how to orient oneself in the face of the improbable, uncertainty and disorder. Another thing is the capacity of emerging techno-social systems to take responsibility for the social repercussions created by technological progress (Gurrutxaga, 2013). From our perspective, there are emergences that define the socio-structural context that frames techno-social systems and which must be taken into consideration:

i) The power of technology. The 4th and 5th industrial revolutions bring their consequences to employment, work, the material organisation of life and indeed to creating the dissonances and contradictions that build the auxiliary society.
ii) The radical penetration of globalization, above and beyond the forms that it acquires in aspirations for an open world or in the collisions that it announces every day.
iii) The New Silk Roads (Frankopan, 2017) and the impact of Asia in the West, Latin America and Africa.
iv) The paradoxical forms of inequality, both those that have a structural origin and those that occur in immediate and daily life.
v) Revisions to the status of liberal democracy, threatened by the exuberance of the forms of crisis that demonstrate its inability to confront the complexity of the dissonances it provokes, the emerging challenges that affect and condition it: the growth of populism, the electoral success of the far right, and the material fatigue of traditional resources.
vi) The new structures of global power that configure the balance between the European West, the USA, Russia, China and the new emerging powers (particularly India).

The processes mentioned create spaces of confrontation where changes are located outside of simple relationships based on causes and effects, in order to confront, radically: i) the meanings of history in the 21st century; ii) the power of uncertainty; iii) the complexity of the unexpected; iv) the forms of disorganization promoted by techno-social systems, particularly when the fragility of the goals that they seek is made evident; v) the speed and acceleration of transformations which means that dynamic stabilization (Rosa, 2010) is the best way to face changes and the value of the uses of time in the spaces from which one can act; vi) chaos and entropy.

1.3. Power in the 21st Century

The consequences of the success of technology and of the 4th Industrial Revolution, the expansion of the global, the impact of Asia, the growing inequality and the mutations of the democratic message all configure outcomes that are shaping the 21st century. The questions are: what unites us? How and who are we?

The 4th Industrial Revolution has expanded from the security of technological knowledge, which increases productivity and competitiveness, but which promotes multiple unexpected consequences because it fragments society and promotes inequality. This generates repercussions in terms of job security, the meanings of work and the crisis in working society. Advanced manufacturing and Industry 4.0 define new productive territories. Technological knowledge, through automation, robotization and digitalization with the help of AI, innovate the sources of productivity and competitiveness, at the same time as they transform the human panorama in productive settings (Cowen, 2013; Baldwin, 2019).

The consequences, which techno-social systems aim to deal with, are very significant for the heirs of the third and fourth industrial revolutions: the replacement of salaried workers and professionals with intelligent technologies. What the social scientists fear (Collier, 2018) is that what may happen is that robotization, automation, digitalization and AI reduce the need for human work because of the divergence between productivity and employment.

1.4. The Unequal Structure of Globalization

Globalization is opening up the world and is meaning that a number of countries and borders, located all over the globe, are coming onto the public stage. The new global geography demands an integration of economic and political spaces and a more central place for the flows generated by global supply chains. The new globalization is characterised by the power of China, Japan, India, Indonesia, Malaysia, Singapore, as well as the rediscovery of Central Asia, and the new roles of Iran and Iraq, Turkey, Russia and Africa. The new map introduces perspectives that are in direct competition to those promoted by the West.

Following the empirical studies of A. Deaton (2015), B. Milanovic (2016; 2019), T. Piketty (2014; 2020) and F. Dubet (2022), the new faces of inequality can be sketched out. The objective conditions of incomes are undeniable (Milanovic, 2016: 37-60): 44% of absolute earnings go to less than 5% of the planet's richest people, and almost a fifth of the real increase has gone to the richest 1%. On the other hand, the emerging middle class has received between 2% and 4% of the global increase in absolute earnings, giving it an income of around 12% to 13% of the total. There are countries –the most outstanding is the USA– where inequality seems to be uncontainable, given that there is a combination of high labour and capital incomes with the great influence of the richest people in making political decisions.

This inequality forms territories where citizens fluctuate between integration, vulnerability and opting out or disconnection. With precision and analytical intelligence, F. Dubet (2022) cites the multiple inequalities formed in daily life. The slide towards the zones of opting out represents a consequence of the growth of inequality. In other cases, insecurity produces fear (Bude, 2018). This is something suffered by those who have something to lose, those who believe that something bad might happen to them if they take the "wrong" path, those who feel insecure on the scale of social status and those who know the fear of fear. The insecurities increase when they perceive that social mobility falters or, even worse, pushes them down rungs.

What instruments are available in order to tackle the questions that arise with the processes described? Are calls, such as those made by the editors of this issue, to technosocial systems sufficient? Or are these instruments of the discourse of the social technology they develop?

The economists A. V. Banerjee and E. Duflo (2019: 2) offer a picture of adversities and expectations. The point out that we are living in an age of growing polarization. From Hungary to India, from the Philippines

to the United States, from Indonesia to Italy, the public conversation between the left and the right has turned more and more into a high-decibel slanging match, where harsh words, used wantonly, leave little scope for backtracking. From their point of view "what makes the current situation particularly worrying is that the space for such conversations seems to be shrinking. There seems to be a 'tribalization' of views, not just about politics, but also about what the main social problems are and what to do about them".

The questions and the concerns that arise in this context are clear (op cit., 2019: 3), "Questions of economics and economic policy are central to the present crisis. Is there something that can be done to boost growth? Should that even be a priority for the affluent West? And what else? What about exploding inequality everywhere? Is international trade the problem or the solution? What is its effect on inequality? What is the future on trade -can countries with cheaper labour costs lure global manufacturing away from China? And what about migration? Is there really too much low-skilled migration? What about new technologies? Should we, for example, worry about the rise of artificial intelligence (AI) or celebrate it? And, perhaps most urgently, how can society help those people the markets have left behind?"

1.5. The Professional Structure and the Auxiliary Society

Social divisions in the 4th Industrial Revolution have, at least, two aspects: 1) having a job, or not, is the most important piece that conditions social stratification and; 2) the characteristics of employment – working, yes, but in what profession?; what will be the substance of those jobs?; in which companies? The 21st-century economy shows that economic growth, when it happens, does not automatically translate into the creation of jobs. The empirical figures show that in the most technologically advanced societies, between 20% and 25% of the active population belongs to those categories of workers protected by socio-technical education and are in jobs with greater relative security.

Other unforeseen consequences emerge from the analysis of the processes of transformation of the structural and socio-cultural framework of modern societies. Angus Deaton (2015) studied the *Great Escape* and explained how to understand the explicit frameworks that foster economic development, rising social mobility and good health. But five years later he observed other problems and published, together with A. Case (Case and Deaton, 2020), the book *Deaths of Despair and the Future of Capitalism* which looks at some of the consequences of the failures of the great escape. It is clear that the digital revolution promotes dissonances and ways of understanding the construction of employment and working life, but it does not offer alternative routes if subjects do not have the technical knowledge and technological education necessary to enter the labour motorway that will hypothetically take them to professional success.

Our hypothesis suggests that wherever big tech society (Morozov, 2018) is constituted there are are emergent productive territories of dissonance. The outstanding signal is the creation of the auxiliary society which hosts the structural jobs necessary to contemporary societies –cleaning, catering, logistics, care, customer service, stockers, etc–, jobs which are less specialized, temporary, poorly compensated in terms of salary, and which offer conditions that are not at all those demanded by technological talent. Those who belong to this auxiliary society are kept apart from the operational avant-garde proposed by the owners of technological knowledge.

It is also important to consider that, despite the democratic fervour of its origins, the forces of the cognosphere depend on the material structure that maintains them (Zuboff, 2019). There is nothing utopian about ownership of the digital infrastructure, or the structure of the material profits produced by web platforms. The analysis of the material structure of digital property is far from any democratic or

participatory ideology, which brings a battlefield for the techno-social systems that contain other suppositions, linked to the idea of welfare, equality, social progress, solidarity and participation/transparency. On the digital platforms the user is the product and the community of citizens once promoted by Facebook (Zuckerberg), clashes with the material structure managed by the company due to the lack of balance between the benefits obtained by different parties in the use of these platforms.

1.6. Exit Strategies, through Politics

It is important to bear in mind that techno-social systems have difficulties in terms of responding to the facts indicated due to their size and complexity. Techno-social systems have partial tools, limited to scopes of medium range. Faced with the technological revolution, the radicalization of globalization and the rise of China, together with the paths traced out by the unrealised historical projects of Western modernity, the response is to build Trojan horses that cannot produce answers to the dilemmas caused by the experiments promoted by techno-social systems (Krastev and Holmes, 2019; Empoli, 2019).

Strategies of implosion align with structural processes to redefine ways of being in politics, which does not mean that the Western political tradition or liberal democracy disappear, but rather they are called to face situations that they are not accustomed to, and which turn "upside down" those back gardens which were so difficult to erect or emulate. Newtonian politics –ordered, logical, based on principles of truth and coherence– give way to quantum politics – fluid, incoherent, based on the use and also on the abuse of algorithms for building events, where what is important is not what is said, but that something be said. The news is not false or true, but simply news and the important thing is to say it, pronounce it, although the permanence of the speaking is not for reaching any coherence. The quantum politician has no duty to the truth of his or her proposals, but rather to "being in order to say".

Another fact that, by way of example, tests the value of these kinds of systems is the consequences of the global emergencies created by the Covid-19 virus. We learn that the more complex the systems are, the more vulnerable they are in the face of adversity. The arrival of the virus was an unexpected event, regarding which there were no predictions, nor were there enough precedents. Few saw it coming, but the contact with it and the consequences it caused had a radical impact. The result is that it has been experienced as a social experiment for the last three generations of Western citizens who did not experience the Second World War, but who look on the events without understanding them or knowing what they mean. Nobody has enough accumulated experience and first-hand knowledge that can act as inspiration.

Uncertainty creates a field of play based on which fear and apprehension of the unknown are represented. Changes are not defined or triggered beforehand and are not related to symptoms that define traditional theories of change. So, for example, the concept of normality falls from the list of social orientations and the abnormal is treated with the appearance of normality. Criteria occupy the territory of essential reference points so that it is uncertainty which takes on the role of writing the script that orientates life. The set of responses in fragile, weak and is submitted to scrutiny as if the motto that guided it was: everything is possible.

The situations show that; i) what is public is unreplaceable, and there are no private strategies or forms of privatization that can emerge as responses compared to the public's power of action. It is essential to return to public policies able to face up to and channel situations of this seriousness. We are not experiencing "the end of the public" but rather the renaissance of sectors debilitated by the weakness of governments in terms of investment in social policies; ii) the return of the State. If, at some point, the thesis of the weakness or even the crisis of the Nation-state has been considered, the way in which the

pandemic was dealt with emphasises the deficiency of this working hypothesis. However, what is yet to be clarified is the model of State projected in order to face the future in terms of managing uncertainties.

1.7. The Future that Is Already Here

Moving in the direction to other territories, the line of interpretation indicates that the new era is revealing that the spirit of the new world can be found in Silicon Valley. As Gumbrecht, (2018: 75) admits, describing the specific identity of this Californian valley, there is an energy that arises from the paradox of two contradictory movements that converge. The collective-individual desire to innovate means, on the one hand, never forgetting about the tendencies that others have initiated and which are now followed the world over; but, on the other hand there is an unlimited ambition to achieve the next intuition that overcomes everything that has gone before. In order to be, you need to be there, and the logic of the initiative opens up the possibility of continuous discovery, as if this were always possible. You need to be where you can, remaining outside means renouncing the possibility of defining life, far from the resolution of the enigma. The possibility of discovery is set up and through this set of operations.

There are other views that also incline towards "reshaping the world". Of course, given the way things are, why not? The book by Mauro Guillén (2020) has a long title: *2030. How Today's Biggest Trends Will Collide and Reshape the Future of Everything*. Holistic and all-enveloping perspectives are the back of the cupboard in terms of the panorama that pronounces invisible futures, contributions based on the maxim that situated identity should learn, or better still, promote and forecast and, of course, not opt out of the game. The results are not verified and even if this were possible, new enigmas trap any forecasts that might arise from a second, third or fourth reading. The only thing that situated identity does not admit is to remain on the outside and not play the game of saying. Without infallible forecasts, the museum of enigmas accumulates yet another work in the storeroom of possible responses.

Readings can be found at the door leading into the museum of enigmas. All accept the need for dynamic stability in order to experience change based on change. Views cannot rest for a moment; they stimulate the open storeroom of this museum and, paradoxically, from diverse positions follow paths that can lead to an understanding of the enigma of change. The responses run in parallel and do not meet; what is more, sometimes they cannot even see each other. The text by Y. N. Harari (2018: 11) expresses the confrontational space that is being referred to here, "in a world deluged by irrelevant information, clarity is power. In theory, anybody can join the debate about the future of humanity, but it is hard to maintain a clear vision. We might not even notice that a debate is going on, or what the key questions are. Most of us can't afford the luxury of investigating, because we have more pressing things to do: we have to go to work, take care of the kids, or look after elderly parents."

Situated identity is tossed around by history and the acceleration of change. Change is followed as if only the degree and the speed of monitoring it would guarantee it and mobilise it. Situated identity suffers from impotence because "time hunger" subordinates the possibilities that it has to the decibels of noise caused by change, and to the gaze, rapt before so much change that it does not know how to corral. It is, from this viewpoint, overwhelmed identity that suffers due to the subjugation caused by the above-mentioned dynamic stability.

The call cannot be ignored, the reason is change and the basic condition is you have to be there. Situated identity learns that, in order to achieve the goal, you have to be there. The dilemma is taking hold of the change, increasing the speed with more speed and withstanding the degree of acceleration. Can the "technological pandemic" facilitate the call to convergence, superintelligence, transhumanism and singularity? Perhaps the responses are in technological refuge when, paradoxically, technological devices

toss ideas of home, shelter or sanctuary into the air? There is nowhere to take refuge; technological speculation via multiple devices and applications inundates everything with the emphatic message; the future will be technological or there will be no future. Situated identity must play in the space available and adapt itself to the attitudes of this time: pragmatism, innovation, adaptability, vulnerability, uncertainty and flexibility because situated identity is also adapted identity.

The surveillance capitalism analysed by S. Zuboff (2019: 16) dismantles the clear perspective of those who believe in the liberal spirit of Silicon Valley. The question that the author asks is significant: "can the digital future be our home?" The analysis and the name she proposes in order to define the moment that must be faced is a warning that proclaims: not everything is what it seems to be. If the voracity of the technological dream is untiring, the expression is clear, "Today these rights to privacy, knowledge, and application have been usurped by a bold market venture powered by unilateral claims to others' experiences and the knowledge that flows from it. What does this sea change mean for us, for our children, for our democracies, and for the very possibility of a human future in a digital world? The darkening of the digital dream and its rapid mutation into a voracious and utterly novel commercial project that I call *surveillance capitalism*." (Zuboff, 2019: 2).

The consequences encounter the market, authority and technological power. The click of the computer, the datum, the screen, the cloud, applications and digital culture are not dispersed nodes in the virtual space but rather the expressions of the banalization and infantilism of "technology for itself" and, also now too, the forms and styles of life that trap and submerge human action in technologically disposed action. How does identity, trapped by technological habits and dependencies, play? The situated identity before the interactive screen, the one that is uploaded to the cloud, or that which browses different applications is also technological. It is the screen that is expressed on the Internet, that goes onto Facebook, which is guided by the powerful influence of Twitter, which uses WhatsApp, Instagram or sees the modus vivendi to be in danger when it is not permanently on social media connected to groups and interests.

2. The Specific Location in History. The Case of the Left Bank of the Nervión River

The specific empirical location of observation that we propose for the analysis and the possible application of social welfare techno-systems is the Left Bank of the Nervión River (covering a population of over 200,000 people in the municipalities of Barakaldo, Sestao, Portugalete and Santurtzi) in the historical territory of Biscay (Basque Country). This is a paradigmatic case (Flyvberg, 2006) in order to be able to illustrate the specific difficulties that social welfare techno-systems face in terms of their development and expansion in territories which since at least the end of the 1980s have been experiencing industrial restructuring processes affected by technological and economic changes in the last four decades.

This area is characterized by being the cradle of industrialization in the region, based on five pillars: i) the steel industry (Altos Hornos de Vizcaya), ii) mining (Orconera), iii) ship building (La Naval), iv) capital goods (Babcock & Wilcox) and v) hundreds of auxiliary companies supplying these big companies. Its industrial identity can be summarised as iron and ships, and over the years a human community was built up based on industrial working culture, of social life at work and meeting up in the city, the neighbourhood and the local communities. The urban landscape structured dense surroundings and social life consisted of factory-based social relations (González Portilla, 2001).

The industrial crisis started in the 1980s with the breakup of manufacturing environments; in just a short time –a single decade– iron and ships become history (Navarro; Herrera and Aranguren, 1994). The rupture of the industrial model happened in unknown conditions. The industrial activity specialized the territory, and the inhabitants of these municipalities that constitute it know how to do what they have learnt and experienced through traditions of over a hundred years of history. Five generations of workers knew that iron and ships are the work and the trade that best define them. The socializing transition was normativised: often parents, children and then grandchildren encountered each other at work. The big companies offered shelter. It did not make them rich, but it did offer a stable working framework.

Individuals followed clear paths for job placement and social integration involving five stages: i) they learned the basics of the trade in Professional Training Schools or Apprenticeship Schools run by the big companies; ii) the companies hired people as apprentices. Then it showed them that there was a career, workers would pass through stages: from apprentices to third-class journeyman, then second-class, and much later on they would become first-class journeymen and a few would become workshop heads or masters. Learning the trade and joining the factory formed one's career; it was a working life of clear milestones, careers with solid foundations and possibilities for social mobility to operate within the company; iii) joining a company promoted a specific culture, that of the industrial worker. This involved norms in terms of action, specific rituals, spaces for socializing, ways of constructing territories of solidarity, the meanings of Us and Them.

Working identity is built on the job, in the productive activity that occurs day after day, in interpersonal contacts and in the dense relationships that, by seeing and rubbing shoulders with each other, and walking together every day, made it possible to be with others, being "yourself"; iv) the social density of industrial working culture unfolded in the building of and belonging to working communities. Members shared spaces and time. Working life was marked not only by the factory siren which signals the change of shift, but by leisure, entertainment and being able to be with those who share the trade and these life experiences. Companies and group beliefs go beyond the world of work and move into times and spaces of leisure, whether these be sporting pastimes, attending shows or other leisure activities. Everything worked towards a relational density acting as the cement for intergroup relationships and welding a belonging within and outside the factory. This is the origin of community commitment; the public street continues the historical mission that has taken shape in the working place; v) the factory defined ways of occupying the city, of building the neighbourhood and the community. Working-class culture is urban and about citizenship, based on what is done and what is endured.

However, as the closure of the big factories occurred, and restructuring was carried out, working life became replaced with doses of nostalgia and melancholy, thinking about the value of the past, in "what we were". Deindustrialization broke up ways of life, and social ruptures were carried over into generational links. The future started to become a slow pilgrimage towards uncertain destinations. The Left Bank sought new horizons; the names of the towns have continued but now the contents are different. At these times, techno-social systems emerge seeking responses to the decline of the age-old industrial fabric.

The questions that accompany this are important: what lies behind the deindustrialization of the geographical space and of this social entity? (Gurrutxaga, 2021) To put it another way, behind the manufacturing world, and given that this has practically disappeared, what is emerging? What comes after the celebration of the meaning developed by industrial working-class culture? Who is responsible for community structures? How and in what way can generational succession be carried out? What are the keys to the future? These emerge plagued by doubts about the vestiges of the past. It is vital to learn how to administer industrial heritage, to manage the land freed up by industrial facilities, now without either buildings or production.

When reindustrialization begins, the replacements that come to the area are not like those which closed; some answers come from productive industries that offer employment in leisure, consumption, service or entertainment, with jobs characteristic of the auxiliary society, with no industrial content (González Duran, 2013). The industrial structure that remains and the leisure and service companies that arrive do not take the place of "the Factory" in the same way.

After over 25 years of this process, the questions are yet to be answered. The latest answers were produced only recently: i) logistics centres such as Amazon have come to the area, installed on land and in industrial buildings that belonged to Babcock & Wilcox; ii) VPG –logistics– aims to occupy the territory of the area's major shipyard, La Naval in Sestao; iii) the Urban Park along the bank of the Nervión River on land that was once Altos Hornos and the company Sefanitro. Some years ago it had been the Ugarte y Careaga business park. Now more leisure and service companies are joining in. Under these conditions, spaces for enigmas, nostalgia and melancholy are built up. Classic industry will not return, that possibility is closed off; it is necessary to look at partial responses based on emerging companies that are not what they were.

The weight of the future is transferred to the new generations, the resolution of the dilemmas is in their hands. However, in these cases, the weight that industrial identity and the requirements of nostalgia offered at other times is not at their disposal. We must follow closely the generational transformation of the Left Bank of Nervión, because in this transformation probably lie the answers to many of the questions posed.

The governmental programmes responsible for techno-social systems are not very different from those of other spaces with similar problems (Galarraga, 2011). They should respond to at least three questions:

i) how is work to be created? How and based on what can viable jobs be generated for the new generations?
ii) How can a working society be reconstructed for those who are left out of it?
iii) and for those who cannot, or do not know how to, link up to technological networks and those trades that are privileged in terms of recruitment?

There are more than a few difficulties. The most important are as follows:

1) dismantling traditional industry left thousands of workers out of the jobs. Youth unemployment is at distressing levels;
2) deindustrialization has left thousands of square meters of land free on the urban market;
3) the end of industrial working socialisation has left the population of these municipalities without frameworks of reference;
4) the mechanism for innovating the area proceeds from the response of the authorities.

The model to be implemented depends on two processes;

1) urban regeneration of the municipalities by means of the strategic use of industrial land left by the iron and ship industries – those thousands of square meters in area. Two institutions have been created in order to promote this venture; Bilbao Metrópoli-30 and Bilbao Ría 2000. One of the most important specific mechanisms is the Urban Plan funded by the town councils, Biscay Provincial Government, the Basque Government, the Spanish Government and European Union funds, promoting the construction of new housing on the land once occupied by Altos Hornos de Vizcaya;
2) company actions through access to the area of leisure, consumption and service companies that come to the business parks that are emerging on the edges of the municipalities. It is as if the

process of "industrial replacement" is beginning. Instead of Altos Hornos, Babcock, La Naval, etc, the installation of other kinds of companies is occurring: Ikea, Media Market, Leroy Merlin, Decathlon, etc. The transformation of the model is taking on an institutional bias. It is local government policies that are introducing "innovatory airs".

The answers in terms of rendering viable the sociobusiness technology promoted by technosocial systems will have to first clarify other questions;

1) understanding the reasons and the circumstances for the end of the model. To put it another way, it is necessary to accept that the industrial model that created the manufacturing model has ceased to exist or, in the best case, is residual;
2) the strategic measures taken follow the definition of the problems;
3) the role of expert knowledge is an important one. This expert knowledge is consulted because in the belief that it can offer answers to socio-economic problems. Now part of international networks, the problems of deindustrialisation are made public and it is possible to go to this market in techno-social solutions in order to understand experiences and learn from other cities and regions with similar experiences and invent, experiment and innovate with the responses they offer;
4) create industrial and business parks. These are responses that are offered in the face of the need to attract industrial fabric and build the future of the new generations;
5) no innovatory model ignores the business fabric in the renewal of manufacturing;
6) plans are the structural foundations of the logic of socioindustrial innovation and are also assessed based on the capacity to configure community and solidarity networks that define the area's social capital.

Formerly, this depended on local links and relationships that were articulated in community practices, under the support offered by the organizations of the industrial working-class tradition. The cultural structure is articulated by means of weak identities that grow in social structures dependent on the praxis of consumption, leisure and services.

However, the Left Bank is discovering that the 21st century is not the time of classic industrial society. In this new time, despite all the support, the role played by techno-social systems offers surprises. They promise reliable, effective solutions, but setting up such systems also contributes to amplifying the many doubts about the conditions of life that they bring. They attend, for example, to the emergence of a new kind of society that we call the "auxiliary society" to characterize, with a pragmatic and functional definition. If there is an essential fact, it is that it collects, like a "bottomless sack", the dissonances of the technological era. In it, a kind of worker emerges that has to navigate in a territory fragmented by the new working structures to which the new professions and the companies linked to the technological structures are addicted to, and which are hardly recognisable to many people. In this territory the most important thing is not reference points related to working life, but rather the fragmented social structure linked to the rupture involved in having, or not having, a permanent job, decent salaries or sociotechnical qualifications.

Those who do not manage to join the working structure of the technological knowledge societies –the majority of the active population in areas such as the Left Bank of the Nervión– are "banished" from the top positions and from the status granted by advanced industries, and must be satisfied with subaltern, temporary jobs with low wages which require, in most cases, limited educational background. Working functions are related to the distance and the service offered by the structures, production environments and the subjects that occupy the limited space for accessing high-income jobs. These kinds of jobs hardly exist on the Left Bank.

What is discovered by the authorities responsible for these systems is that, faced with the dilemmas produced by the crisis in classic industry, the Left Bank of the Nervión River is a laboratory of almost 150 years of life and long tradition. The socioeconomic dissonances open up a vast crater because, given the development of the labour crisis that accompanies the forecast technological innovation, this same innovation responds in the way it knows how: with more calls to find solutions in technological discoveries and scientific innovation. These two responses are represented as the only two solutions to the new problems. We believe, on the other hand, that the dissonances triggered by automatization, digitalisation, robotisation and AI cannot offer answers based on the axiom, more of the same, that is to say, based on automatization, robotisation and a radicalisation of digitalisation. The situation requires introspection involving other spheres. Such an approach, left to the strict logic of the new markets, provokes the construction of more paths to labour segregation and the fragmentation of employment, where principally what emerges are jobs requiring few qualifications which are poorly paid, temporary and with little or no career path in order to build life projects and individual biographies.

There are two metaphors that can be used in order to illustrate the situation of the Left Bank, from a sociological point of view (Gurrutxaga, 2021). The first –the land– refers to the anchors that link people with spaces and institutions. The land, in the urban imagination, is related to history and the definition of the future. The second –the dome– encloses the space, offers coherence and nourishes the imagination with symbolic and cultural riches in order to explain why it is what it is, to what it aspires, what it wants, why and how. The best representation of the land lies in the future, while the dome is the umbrella that protects it; these are the customs, the norms, the habits, the values, in short, the cultural identity of the Left Bank. Future and identity are the land and the dome, two interdependent and interconnected elements.

However, do these metaphors define the industrial, manufacturing Left Bank? We have the impression that they translate the present viewpoint, the derelict industrial landscape, the recovery of the urban land, the distracted gaze that finds new pathways, the industrial society defeated by time, the 4th Industrial Revolution, which wants to happen but it does not know how, the falling incomes of homes, together with the actions of companies and entrepreneurs with the initiative and capacity for enterprise, authorities that promote confidence with an impoverished civil society, demographic decadence and the eternal waiting of young people, in order to create a working future without having to leave the area.

As S. Boym says (2001:14), we should consider that "nostalgic love can only survive in a long-distance relationship. The cinematic image of nostalgia is a double exposure, or a superimposition of two images – of home and abroad, of past and present, of dream and everyday life. The moment we try to force it into a single image, it breaks the frame or burns the surface," which shows that "it is even harder to predict the past than the future".

3. By Way of Conclusion. The Point of Arrival

It has not been the aim of the article to relate in detail the historical path the last four decades of the 19th century, the ten of the 20th, and the two so far of the 21st century in order to understand how the industrial fabric of this area was introduced and developed, but instead rather to analyse the consequences of the deindustrialisation process, how it acts on culture and how in a short space of time the erosion has taken place of the industrial identity built up over more than a century – from the second half of the 19th century to the 1990s. The question is: what is to happen with the industrial identity when the material and socio-symbolic structure that has maintained it disappears? The earthquake is

unleashed, following the lines of force which align with the nerves of the factory, the shipyards, the large, small and medium-sized businesses, industrial working-class culture and the forms of community life that belong to the factory and the shipyard. There are many questions and few answers.

The dilemmas that face techno-social systems in terms of extending social welfare in areas with the features presented by the Left Bank of the Nervión River are of three kinds: i) are there accumulated resources and technological knowledge to face the creative destruction that the current technological revolution presents in deindustrialised settings? ii) Can service, leisure and consumption-based companies be bastions of the New Left Bank? iii) how and based on what can it take its place in the 4th Industrial Revolution? The perspective is conditioned by the laws of history. There is a relationship between the model built up in the second-half of the 19th century and the circumstances experienced by the territory in the first two decades of the 21st century. Despite the great differences between these two periods, what they have in common is the connectivity between the past, the present and the future through persistent traces that define possibilities for social transformation (Gurrutxaga, Pérez-Agote and Unceta, 1990; Gurrutxaga, 2002).

We have been witnesses to the process of industrial urban transformation, conditioned by the past, which sinks its roots into the defensive understanding about how to act in deindustrialised urban and industrial areas. The Left Bank is a land of contrasts and fragments, where new companies, abandoned industrial sites, former and current factories, urban disorder, advanced developments and nostalgias about the past live together in a strange mixture where everything is what it seems while everything negates appearances before the darkness of the future.

Is there such a thing, today, as the Left Bank? Yes, but what you do not see is the “sacred” industrial space. Amazon, Ikea, Decathlon, etc. are located about a kilometre away, and they do not know what or where Altos Hornos was, and when you are there you cannot see La Naval, Aurrerá, etc. The workers have all “gone”, working society has been left without classic industrial jobs, work has been emptied of industrial working-class culture and the new generations await. There is always history to tell the story, and nostalgia to remember it. Industrial identity was stranded at some point in recent history, without workers, without working-class community and without industrial culture. Almost 40 years on, it has to be invented every day, but industrial working-class culture is not available for everyone who needs it. However, this is the condition for continuing to be Left Bank, although the geographical space that forms it is still there. But now it is, or at least seems to be, mythology, place, history, the past that almost nobody goes back to or recognises.

Techno-social systems, if they want to have practical viability, will have to detach themselves from the exclusive imperatives that are imposed on them by the circle of technological influence, in order to proclaim the need to incorporate into the proposal specific cultures and new ways of being in the world. What the Left Bank needs is not only the reindustrialisation of the area, but also a new cultural order that competes with the seductive power of the former industrial working-class culture, as well as the melancholy in which thousands of inhabitants of this geographical space have become trapped. There is a question that is still with is: are the above-mentioned technosocial systems able to tackle this transformation? Today there is no clear answer, it is an unknown where the uncertainties occupy more space than we might wish, and from which many doubts arise.

References

Baldwin, R. (2019). *The Globotics Upheaval: Globalization, Robotics, and the Future of Work.* New York: Oxford University Press.

Banerjee, A. V., & Duflo, E. (2019). *Good Economics for Hard Times: Better Answers to Our Biggest Problems.* New York: Public Affairs.

Boym, S. (2001). *The Future of Nostalgia.* New York: Basic Books.

Bude, H. (2018). *Society of Fear.* Cambridge: Polity Press.

Callon, M. (1998). El proceso de construcción de la sociedad. El estudio de la tecnología como herramienta para el análisis sociológico. In E. Doménech, & F. J. Tirado, *Sociología simétrica: Ensayos sobre ciencia, tecnología y sociedad* (pp. 143-169). Barcelona: Gedisa.

Case, A., & Deaton, A. (2020). *Deaths of Despair and the Future of Capitalism.* New Jersey: Princeton University Press.

Collier, P. (2018). *The Future of Capitalism: Facing the New Anxieties.* New York: HarperCollins.

Cowen, T. (2013). *Average Is Over: Powering America Beyond the Age of the Great Stagnation.* New York: Dutton-Penguin Group.

Deaton, A. (2015). *The Great Escape: Health, Wealth, and the Origins of Inequality.* New Jersey: Princeton University Press.

DeLong, J. B. (2022). *Slouching Towards Utopia: An Economic History of the Twentieth Century.* London: Basic Books.

Dubet, F. (2022). *Tous inégaux, tous singuliers.* Paris: Seuil.

Echeverría, J., & Ugalde, J. M. (2022). Introduction: artificial intelligence its potential and limits. *Revista Internacional de los Estudios Vascos, 67(2)*, 1-10.

Empoli, G. d. (2019). *Les ingénieurs du chaos.* Paris: JC Lattès.

Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry, 12(2)*, 219-245.

Frankopan, P. (2017). *The Silk Roads: A New History of the World.* New York: Vintage Books-Penguin Random House.

Galarraga, A. (2011). *Procesos inconclusos: La industria y el conocimiento en la C.A. del País Vasco.* Leioa: Servicio Editorial de la Universidad del País Vasco.

Giddens, A. (1990). *Consequences of Modernity.* Polity Press: Oxford.

González Durán, S. (2013). Transformaciones urbanas en la margen izquierda del Nervión: turismo, consumo y nuevos paisajes productivos. *Inguruak: Revista Vasca de Sociolgía y Ciencia Política, 53-54*, 525-533.

González Duran, S. (2017). *Lo postindustrial desde los habitantes de la Márgen Izquierda del Nervión.* Vitoria-Gasteiz: Cuadernos Sociológicos Vascos, 30. Servicio Central de Publicaciones del Gobierno Vasco.

González Portilla, M. (2001). *Los orígenes de una metrópoli industrial: la Ría de Bilbao.* Bilbao: Fundación BBVA.

Guillén, M. F. (2020). *2030: How Today's Biggest Trends Will Collide and Reshape the Future of Everything.* New York: St. Martin´s Press.

Gumbrecht, H. U. (2018). *Weltgeist im Silicon Valley: Leben und Denken im Zukunftsmodus.* Basilea: NZZ Libro.

Gurrutxaga, A. (2002). *La mirada difusa.* Irun: Alberdania.

Gurrutxaga, A. (2005). Paseo por la ciudad: Desde Bilbao a Santurce. *Fabrikart: Arte, Tecnología, Industria, Sociedad, 5*, 102-121.

Gurrutxaga, A. (2006). Hogar y santuario. *Fabrikart: Arte, Tecnología, Industria, Sociedad, 6*, 54-69.

Gurrutxaga, A. (2010). *Recorridos por el cambio, la innovación y la incertidumbre.* Leioa: Servicio Editorial de la Universidad del País Vasco / Euskal Herriko Unibertsitatea.

Gurrutxaga, A. (2013). *Societies of Social Innovation: Voices and Arguments.* Sussex: Sussex Academic Press.

Gurrutxaga, A. (2017). *Rutas nacionalistas: La sociedad vasca del siglo XXI.* Madrid: Biblioteca Nueva.

Gurrutxaga, A., & Galarraga, A. (2017). *Fábricas del futuro: Conocimiento social y tecnología.* Madrid: Plaza y Valdés.

Gurrutxaga, A., & Galarraga, A. (2018). *Mapas del cambio: cartografías del presente.* Leioa: Servicio Editorial de la UPV/EHU.

Gurrutxaga, A., & Galarraga, A. (2022). El relevo generacional en Europa: Empleo, formación y vínculos sociales. In Eurobask, *El futuro de la Unión Europea: Aportaciones a la Conferencia* (pp. 35-101). Madrid: Dykinson.

Gurrutxaga, A., Pérez-Agote, A., & Unceta, A. (1990). *Estructura y procesos sociales en el País Vasco.* Leioa: Universidad del País Vasco / Euskal Herriko Unibertsitatea.

Harari, Y. N. (2018). *21 Lessons for the 21st Century.* London: Jonathan Cape.

Krastev, I., & Holmes, S. (2019). *The Light that Failed: A Reckoning.* New York: Allen Lane.

Milanovic, B. (2016). *Global Inequality: A New Approach for the Age of Globalization.* Cambridge: The Belknap Press of Harvard University Press.

Milanovic, B. (2019). *Capitalism, Alone: The Future of the System That Rules the World.* Cambridge: The Belknap Press of Harvard University Press.

Morin, E. (2011). *La voie: Pour l'avenir de l'humanité.* Paris: Fayard.

Morozov, E. (2018). *Capitalismo Big Tech: ¿Welfare o neofeudalismo digital?* Madrid: Enclave de Libros.

Navarro, M., Rivera, O., & Aranguren, M. J. (1994). *La crisis de la industria manufacturera en la CAPV.* Bilbao: Manu Robles Arangiz Fundazioa.

Piketty, T. (2014). *Capital in the Twenty-First Century.* Cambridge: Harvard University Press.

Piketty, T. (2020). *Capital & Ideology.* Cambridge: Harvard University Press.

Piketty, T. (2022). *A Brief History of Equality.* Harvard University Press: Cambridge.

Rosa, H. (2010). *Alienation & Acceleration: Towards a Critical Theory of Late-Modern Temporality.* Aarhus: NSU Press.

Rosa, H. (2018). *Unverfügbarkeit (Unruhe bewahren).* Salzburg: Resident.

Schütz, A. (1976). *Collected Papers II: Studies in Social Theory.* The Hague: Martinus Nijhoff.

Sennett, R. (1990). *The Conscience of the Eye: The Design and Social Life of Cities.* New York: Norton & Company.

Zuboff, S. (2019). *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power.* New Yor: Public Affairs.