INTERVENTIONS AND ONLINE PSYCOTHERAPY. Theory and technique.

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Introduction

We are chemicals, bits and representation

We live in at least three worlds: the psychic world, the social world and the online world. By "world" we understand a type of reality, space-time, worldview and the structure of representation. These worlds exist on the basis of chemistry and representation. Chemistry is present and indispensable as the biological infrastructure of our being and of our worlds, in fact, without it our psyche would not exist. We understand "representation" as the ability to generate a representation (re-presentation), in other words a way of presenting the world as a map or a simulation at the level of the mind and culture. From this representation it is possible to think, to act and to generate transformations in our worlds. And over the last 50 years or so, millions upon millions of screens, computers, mobile telephones and electronic tablets have become available around our planet, making our representation visible and audible at the level of the online world.

These technological devices are products of the evolution of three great developments in recent centuries: the printing press, radio and cinema, the latter of which expanded into television and from there into the internet: a system of communication that allows us to integrate the representations of text, sound and images of the earlier discoveries, and is fundamentally interactive. People connected to the internet are able to interact with each other, to edit the contents on the screen, to rely on its exceptional memory and extraordinary data processing capacity. In many cases, these characteristics surpass the nervous system of human beings, even though other distinctly human characteristics cannot be experienced through these truly "technological prostheses", such as skin-on-skin contact, smell or the connection of gazes.

From the perspective of the online word, we are atoms, bits and representations, the atoms being the material that make up the biological infrastructure as well as the technological one; bits form the registered information in a binary system (digitalisation) and are transmitted in a time and space of electromagnetic waves within the realm of physics. Online representation, as opposed to psychic representation, is able to capture the world from certain particular qualities of fragmentation, duplication, multiplication, recombination, self-editing and, finally, individual and collective memory. These particular characteristics, along with person's desire to communicate, make it possible to access processes of psychological and social subjectivation through online devices.

Throughout the history of humanity, the human mind has evolved alongside the evolution of technology. The last 50 years have seen an acceleration of this progress, which leads us to wonder about the relationship between the mind and technology during this evolution. We sometimes think that psychosocial and economical advancements bring about change through the discovery of new technologies, and at other times that the discovery, or the invention of new technology, produces a transformation in the psyche and society. Whatever the case, the growth crises in human history seem to occur at times when conditions in the various dimensions of human knowledge and action are in place to bring about evolutionary leaps. Frequently, these crises of collective growth are not exempt from major social traumas, such as the two world wars of the last century, which generated important transformations at the level of organization of the planet, and of the evolution of knowledge and technologies. Perhaps on perceiving his ability to destroy the planet and its species, man has needed to construct new ways to resolve this tendency to self-destruct?

Why consider working with online interventions and psychotherapy?

We have discovered new applications in the field of mental health which have meant new indications and contraindications with notable reductions in cost and resources. It has often been that the socio-health circumstances or the needs of patients that have led us to use online frames. Clinal experience and investigation have confirmed its benefits.

On discussion forums and in training groups for mental health professions, one of the most-used phrases is that the evolution of the use of communication and information technology "is here to stay." This declaration is usually attributed to the beginning of the Covid-19 pandemic, yet we usually comment that the use of technology in mental health already existed up to 40 years ago and that will continue to exist after pandemic has run its course. Covid-19 has precipitated an acceleration and generalization of the use of technology and a branching out of its applications, even though there is uncertainty about what the uses of its dimensions and modalities will be in the future. This evolution has brought us to the decision to create training spaces for mental health professionals and to investigate the therapeutic practice online and its results. We must understand the changes that it has produced and establish new theoretical concepts and new technical developments in order to work from within these transformations.

Each new technology has awoken ghosts, fears and resistance, yet little by little each of these changes has taken its rightful place among the different tools we have at our disposal. Our specialists have generally been reticent about these transformation processes. We can discern two noticeable tendencies: technophilia, being enthusiastic about the possibilities presented by online devices, and technophobia, the mindset of professionals and others who are reluctant or against them. We currently observe the tendency to use a "mixed frame", different combinations such as online treatment with sporadic face-to-face interviews, or in person treatment with complementary online interviews and other modalities that complement, in a balanced or variable way, these two modalities, online and in person.

Finally, we have observed another tendency orientated toward "hybridisation" which consists of simultaneously combining online modalities and in person. These modalities have shown advantages in international or inter-regional training and interventions, consequently facilitating an exchange of knowledge and the generation of interactions that would have been unheard of years ago.

The improvements in connections and technological advances around the globe have influenced this evolution. However, an important "technological gap" remains between rich and poor countries or even within an individual country due to high costs and the training required for these technological devices.

As for mental health interventions, based on the experience and observations made during the pandemic, we feel that it is important not to be prejudiced about technology's uses and utilities. We have found previously unpredicted benefits, such as those observed with different online intervention modalities in chronic psychotic pathologies, personality disorders or in psychopathological structures of clinical severity. Furthermore, we have observed benefits in family interventions in early care or treatment in children, and also in online interventions for adolescents at risk or elderly people.

In other instances, in which it may have been tempting to envisage positive results, this has not been the case. For example, neurotic patients with good communicative capacities, abilities and technological resources who have not wanted to connect through these means and have suspended or interrupted treatment until they are able to restart face-to-face communication.

Certain phobic patients have benefited enormously from using remote communication and other patients with schizoid characteristics or autistic traits have asserted their comfort with the technologies and find the prospect of leaving these "safe spaces" difficult.

The analysis of the transition between online and presential in both directions offers a great source of information into understanding these phenomena and to developing different modalities of technical instrumentation, as we have observed, for example, in the mixed and hybrid approach to treating patients with Asperger Syndrome, using presential groups as well as groups connected through videogame platforms simultaneously and successively. We still have much to learn from these experiences and others. Patients affected by Covid-19 have received, thanks to online technology, vital help from family members and psychotherapists, especially during periods of isolation and quarantine.

Reflecting on the evolution of the body, the architecture of cities and social evolution throughout the history of mankind, Richard Sennet (1997) states that a fundamental moment in the evolution of humanity was when the inner workings of the human body were studied, expressly the discovery of blood circulation and the transportation of oxygen through red blood cells. Sennet elaborates that this new knowledge generated a new representation of the world and transformations in the architecture of cities, even forging a new conception of cities which were previously protected by walls but are now increasingly connected by roads and crossed by motorways and have a systems for transporting goods between different regions.

Today, in the online world, a new conception of space and time is generated, whereby the association of the body and the psyche with the physical space of social interactions, of architecture or of the representation of the body itself, are transformed and interconnected by digitalised information which travels through space via electromagnetic or light waves. Online space is delocalized, separated from territory, functioning as a network in which the electromagnetic waves are able to cross social boundaries as well as physical ones. We can therefore observe how analogue and digital systems are in constant interaction, just as physical and online space are in a state of constant interdependence.

Our system of psychic representation is clearly analogue, however, the encoding, transmission of information and the functioning of neural networks is developed as a binary system, or better said the binary system copies the way in which the nervous system works. In basic terms, the neurons work with two messages, plus and minus, + and -, related with depolarisation or not of the neuronal cell, in an extremely complex framework of three-dimensional networks in which multiple simultaneous interactions generate an infinite number of circuits and representations.

Authors such as Marshall McLuhan, progenitor of fundamental ideas about technological evolution such as "the global village" (McLuhan, 1983) and Yuval Noah Harari, who predicts that in 100 years the existence of human being will not be natural (Harari, 2018), reveal to us the advantages and disadvantages of this technological evolution. Yet as far back as 1930, Sigmund Freud in *Civilization and its Discontents* (pp. 89-91) initiated a debate that seems highly topical:

> We recognize as cultural all activities and resources which are useful to men for making the earth serviceable to them, for protecting them against the violence at the forces of nature, and so on. As regards this side of civilization, there can be scarcely any doubt. If we go back for enough, we find that the first acts of civilization were the use of tools, the gaining of control over fire and the construction of dwellings… With every tool man is perfecting his own organs, whether motor or sensory, or is removing the limits to their functioning. Motor power places gigantic forces at his disposal, which, like his muscles, he can employ in any direction; thanks to ships and aircraft neither water nor air can hinder his movements; by means of spectacles he corrects defects in the lens of his own eye; by means of the telescope he sees into the far distance; and by means of the microscope he overcomes the limits of visibility set by the structure of his retina. In the photographic camera he has created an instrument which retains the fleeting visual impressions, just as a gramophone disc retains the equally fleeting

> auditory ones; both are at bottom materializations of the power he possesses of recollection, his memory. With the help of the telephone, he can hear at distances which would be respected as unattainable even in a fairy tale. Writing was in its origin the voice of an absent person; and the dwelling-house was a substitute for the mother's womb, the first lodging, for which in all likelihood man still longs, and in which he was safe and felt at ease… These things that, by his science and technology, man has brought about on this earth, on which he first appeared as a feeble animal organism and on which each individual of his species must once more make its entry ('Oh inch of nature!') as a helpless suckling — these things do not only sound like a fairy tale, they are an actual fulfilment of every — or of almost every — fairy-tale wish. All these assets he may lay claim to as his cultural acquisition. Long ago he formed an ideal conception of omnipotence and omniscience which he embodied in his gods. To these gods he attributed everything that seemed unattainable to his wishes, or that was forbidden to him. One may say, therefore, that these gods were cultural ideals. Today he has come very close to the attainment of this ideal, he has almost become a god himself… Man has, as it were, become a kind of prosthetic God. When he puts on all his auxiliary organs, he is truly magnificent; but those organs have not grown on to him and they fall give him much trouble at times. Nevertheless, he is entitled to console himself with the thought that this development will not come to an end precisely with the year 1930 A.D. Future ages will bring with them new and probably unimaginably great advances in this field of civilization and will increase man's likeness to God still more. But in the interests of our investigations, we will not forget that present-day man does not feel happy in his Godlike character.

Sixty years later and barely six months after the fall of the Berlin Wall, in 1989, the World Wide Web (WWW) was created, through which information of various kinds could be transmitted and accessed as a network of nodes that the user can navigate at will. The Web, as we know it today, has enabled a global communication flow on a scale unprecedented in human history. Users separated in time and space are able to initiate exchanges through the web, and also to mutually develop their thoughts.

Twenty years before, McLuhan conceived the idea of a global village and a system that metaphorizes a transindividual and global nervous system. The recent contributions from Harari, with his prediction of the emergence of "unnatural beings", give rise, from a less dystopic perspective to the idea of hybridization between human beings and machines and opens the way to a new individual and collective subjectivity.

The evolution of knowledge of the human nervous system, alongside the thoughts of McLuhan, allows us to advance the concept of the interaction of interconnected nervous systems via electromagnetic waves over short distances and in conjunction with a large technological prosthesis also connected via electromagnetic waves (the internet). This interaction may lead us to think about human-machine hybridization at the planetary level, where it is true that power systems retain an important part of the control of communication systems, influencing technological prostheses and the functioning of our minds.

A new language evolution, namely the creation of binary language, has had a fundamental influence on the development of the architecture of this universal techno-representational system that forms the internet (Negroponte, 1998). A student of McLuhan, Derrick de Kerchove (2006), explains that digitalisation is based on a language constructed of either 0's or 1's that are organized in very long sequences of information and non-information, or pauses, which allow us to represent, paradoxically, the different modalities of information (text, audio, image), whereas with the alphabetic language (27 letters in the Spanish alphabet) we can represent texts, but we cannot represent images or sounds. This is how the binary code allows us to build a representation of the multimodal world that can be fragmented and observed in parts or can be integrated and observed as a whole. While there are some modalities of human communication that, at least at the current moment, are unable to be represented through binary code, skin-on-skin contact and smell, for instance.

We believe that in today's world and psyche, digitalisation, starting from a highly fragmented coding system (micro-units of information called bits), facilitates the formation of various systems of integration that make it possible to reconfigure representations and transform the

world and the psyche. Analogue communication systems naturally favour an integrated representation of the various modes of representation in a three-dimensional format and with a tendency to generate a continuous representation. The constant interplay between analogue and digital languages is one of the essentials of the online world.

From Lucretius to Pessoa

At this point, we would like to momentarily step away from these psycho-technological contemplations and investigate another avenue which begins with Lucretius and goes as far back as Pessoa, one which will allow us to articulate these complex systems with other trains of thought close to the construction of subjectivity and intersubjectivity through technologies. Around the year 50 BC, Lucretius wrote his poem *De rerum natura* (*On the Nature of Things*) in which he developed the concept of "simulacra". Simulacra are small, very thin membranes that come away from the surface of a body, moving through the air in all directions and may be deposited on the surfaces of bodies or enter through the pores of the body. Through this process, Lucretius understood the phenomenon of perception, memory and dreams. Memory would store these thin, innumerable membranes inside the body. In dreams, there would be combinations of membrane fragments that could be integrated and create new beings, some non-existent, such as a 'centaur', half animal and half man, which would be produced as a result of combining a membrane from a part of a man's body with the membrane from a part of a horse's body. There is an evident relationship between these extremely thin membranes – which move through the air – from a pre-scientific physics perspective, one which is closer to poetry, to the information (bits) transported through the air by means of the physics of waves.

Pessoa, a Portuguese writer, wrote through 64 heteronyms and one orthonym. The dialogue between one of his heteronyms and his orthonym, with whom he maintains a dialogue in literary fiction after the death of the orthonym, is disturbing. On the one hand, in a series of poems titled *Oblique Rain*, Pessoa develops the idea of "intersection" and of "sudden change". The intersection allows representations from different dimensions, conscious and unconscious, self and other, of animate and inanimate objects, and of bodies to form new representations, "suddenly" producing a transformation. The online world is one of intersections that escape the limits of Cartesian representations, and is in permanent disposition to sudden changes, our identities can also multiply through different orthonyms. In times of technologies and the internet, and of the understanding of the physics of electromagnetic waves, between the pre-scientific Lucretius and the poetry of Pessoa and between the new conceptions of nervous system (Damasio) and the idea of the global village from McLuhan, I believe that we can build a representation of intersubjectivity that allows us to navigate the new phenomena of the online world.

Online representation and hybridation

We are 'chemistry and representation'. The chemistry sustains subjectivity from an atomic infrastructure and electrochemistry, connected through electromagnetic waves, through axons, cables and the air (wireless). On the other hand, we are representation, and we generate a representation of our world which allows us the possibility of imagining it, recording it and transforming it. We believe that a new mode of representation has been generated that we call 'online representation', which is a direct result of this described complexity, and which brings about a degree of uncertainty and drives us to create, to rethink and to be especially careful about how we intervene in the construction of the future of our world.

In the current social, healthcare, political and economic crises (Barcelona, 2021)[1], significant changes at a psychological level and relationship forms have appeared. A year has passed of periods lockdown, de-escalations in restrictions and partial lockdowns across the whole planet since the emergence of a pandemic that has forced us, as a way of protecting ourselves, to remain in our homes and to avoid body contact or even being in close proximity with one another. In the opening up after lockdown, the restrictive measures have been loosened, and there is uncertainty about the potential for new pandemic outbreaks and possible return to lockdowns. A year-and-a-half since the declaration of the pandemic in March 2020, scientists have been analyzing the plethora of results from different vaccines. Between 4 and 10 million people have died (keeping in mind the findings of the WHO), and while being in different countries and regions, depending on the socio-economic situations of these places, we are in various stages of what we could call post-pandemic.

We are experiencing a paralysis of the usual forms of production, education, culture and relationships beyond our very nearest companions in lockdown. This context has given rise to a vital need to develop different modalities of long-distance communication through the mediation generated by different types of technologies which are the only means of communication that do not transmit the Covid-19 virus. Paradoxically, during the hybrid format in which people participate in person and others online, those who have come together in person must wear face coverings while those who appear online have their faces uncovered, allowing us to appreciate better their facial gestures. Teleworking, telemedicine, tele-psychological assistance, online sales, online culture through tele-devices in all areas of life and relationships are developing at a dizzying pace.

Many different names are used for psychological interventions: online psychotherapies, distance, remote, cybertherapies, with the common denominator being the use of some kind of technology that allows communication at distance or mediates communication between the different participants of the event. The beginning of communication through letters, as used by Freud, in therapeutic interventions or for the exchange of knowledge, evolved into the use of the telephone, written forums through the internet, the development of platforms for collective creation through images, drawings, sounds, voice, music and, most recently, simultaneous videoconference platforms. Videoconferencing has had its own evolution since the days of bipersonal communication on Skype, to those that supported 3 or 4 participants, followed by 5 to 8 and currently where up to 500 people may be connected simultaneously through the same screen.

Seeing a person in the face-to-face physical context or through a bidimensional image on a screen seemed to be separated by borders that were difficult to cross. Nowadays we are able to imagine platforms that allow us access to three-dimensionality, to touch and even to smell. We think about how, through our subjectivity and intersubjectivity, we can hybridise the technological environment with the intersubjective environment in order to build, among the people we wish to communicate with, a bond that includes emotion, intimacy and the capacity for transformation. At the current moment of evolution of technologies and technical developments mental health, the mixture of online and in person environments offer us these possibilities while leaving us much ground to cover and a vast amount of research to be carried out.

In this context, new theoretical and technical developments for mental health professionals are indispensable. Studies have appeared focusing on online psychoanalysis, psychodrama and psychotherapies in general, and their different applications: children, adolescents, adults, the elderly. They arise through different types of technology: telephone, WhatsApp, forums, videoconferences, and through different modalities of language: verbal, textual, hypertext,

[1] It is necessary to indicate the city and the year, as this current situation is universal and differs by weeks or months in different countries and regions.

videoconferences, the medium of online games, virtual reality platforms and through platforms for collective creation. Basically, two modes of connection are developed, asynchronous with different types of delay between the message and the answer, and synchronous with its simultaneous forms of communication.

We have been investigating this topic for over 15 years. As a result, a doctoral thesis was produced: "A study into macro- and micro-therapeutic processes through online participation" (2010); a book: *Group Psychotherapy. Group Psychotherapy Online* (2010), and in 2020 we participated a chapter about online group psychotherapy in the book *Theory and Practice of Online Therapy* by H. Weinberg and A. Rolnick. The transformations over these nine years have been spectacular and we felt the need to write this new book to reveal and update the important developments that have taken place and to impart what we have learnt.

We have concluded the fourth edition of a training course for mental health professionals, "Online interventions and psychotherapy", and a multitude of training has been requested of us from mental health institutions throughout Spain and internationally. We use a virtual campus and several hours of training through synchronous videoconferencing with more than four hundred professionals from Spain, South America, Portugal and Italy. We would like to share the enriching experience we have gained from many hours of contact with mental health professionals and psychotherapy patients. At the present time, it is not possible to distinguish whether the urgency of training is due to the need produced by the experience of locking down large portions of the world's population or whether it is an acceleration of a process that has already been going on for 40 years and is likely to continue, albeit to a lesser degree.

We fundamentally believe that different long-distance communication technologies are able to bring about transformations in the field of mental health, through international and trans-cultural communication, the production of subjectivity, intersubjectivity, online intimacy and the development of various forms of creativity through the network.

In my personal experience, I have gone through different stages in my relationship with technology. In the beginning there was a certain rejection or reticence that the new usually generates in me. Afterwards, however, there was a great wave of enthusiasm regarding the new inventions and the possibilities they could offer in different fields. Periods of deep immersion and investigation, with periods of rest, led to a progressive vision of how our mind has been adapting over time to the online space. During recent intense research into the use of communication technology across the planet, I am beginning to perceive a transformation of mental space towards the construction of a hybrid subjectivity in which virtualisation, a fundamental characteristic of the human mind, oscillates between symbolisation and objectification. The symbol, a founding characteristic of the human being, and the object tied to technology, which can function in another time and a delocalized space, begin to produce a new dimension to human subjectivity, with the possibilities this implies for constructive transformations of our world and new forms of destructiveness.

The following are the questions that orient this book:

1. How has the Covid-19 pandemic affected the work of mental health professionals, their patients and their families?
2. What advantages and disadvantages have we observed in online interventions and psychotherapy? What experiences can we share to exemplify these observations?
3. What mediums of technology have been used and what have been the results?
4. What new theoretical and technical conceptualisations can we develop?
5. What new applications have been put into practice?
6. How do we consider that online interventions and psychotherapies will be implemented in the future?

The book is made up of two parts, a first part on general aspects related to theory, technique and online framing and a second part related to the different specialties of online psychotherapies and interventions.

In the first part, Chapter 2, we expand on the basis of the psychotherapies and online interventions outlined in an earlier paper on the subject, the four fundamental principles, advantages and disadvantages, possibilities and limits. We will also briefly cover the history of this type of intervention. In Chapter 3, we go in depth into the study of new theoretical concepts vital for the understanding and implementation of these methods, as well as issues related to the mental apparatus and technologies, the concept of the technological object and prosthesis and how they evolve along with the development of the psyche; the new concept of online reality and its differences with reality, the psychic reality and virtual reality; the concept of the technological mirror and online transitional space; the network analysis system which describes a way of looking at and thinking about therapeutic phenomena online; and the scene within the scene, a particularity of the structuring of the online therapeutic space with profound therapeutic implications.

Chapter 4 deals with new technical aspects of the subject of the book, problems and possibilities of the online technique; synchronous and asynchronous; the online body; the online scene (theatrical, cinematographic, literary); online objects; the online therapeutic link, its characteristics, empathy, transference, co-thought, enactment; and presence and intimacy in online links.

In chapter 5 we develop a fundamental aspect related to the framing of the different modalities of psychotherapies and interventions online: space, time, task; types of online psychotherapy and interventions; different online languages: text, audio, video, collective creation platforms; virtual reality, videogames; mixed and hybrid frames; indications and contraindications of online interventions and psychotherapies. From psychology 1.0 to 5.0.

Chapters 6 and 7 have been written alongside specialists in the fields of philosophy and political philosophy and allow us to gain an understanding of the online world and socio-political changes that have taken place in modern times.

The second part of the book is made up of 12 chapters which study in depth theoretical and technical aspects of different specialties in the field of online mental health care, fundamentally individual and group psychotherapy; psychodrama online; approach in early care, children and adolescents; psychosis and severe mental disorders' treatments with the body, visual arts, and figure theatre; social dreaming matrix online and public psychodrama online.

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