Language, Technology, Cinema. Devising Communication Beyond the Models

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Article received on March 3, 2020, approved for publication on May 21, 2020

Abstract

Over time, the consideration of communication has become more common, as reflected in the number of models that seek to systematize its function. The present text seeks to offer a cartographic outline of two of the founding concepts of the communicative field, as fundamental places from which to contemplate its operation, but declines to produce a model. Perhaps its value is of a didactic nature, a provocation to think beyond models, for which reason we use *language* and *technology* as theoretical centers of gravity, revealing (cinema as text) concepts on the big screen.

Key words: Communication; Language; Technology; Cinema.

Introduction

To begin, we would like to comment on the reason that cinema is used as a correlate for our communication review, as a conceptual key. Our speculative effort, on two concepts (*language and technology*), which come before and condition any communicative operation, suggests a type of cartographic outline, which evades systematicity for the comprehension of complex territory. In order to better comprehend the abstraction itself of the concept, the exemplification must serve as an illustration, to put the ideas to work, materialize them in the world in which we live, a world simulated by the seventh art.

Our interest is to consider communication, which we know to be an enormous effort. It is not workable to include all types of communicative dynamics, as even the enumeration of possible artists is a titanic task. Let us submit that communication may be recognized in the living (not only in humans), that machines apparently offer simulated forms of communication (perhaps someday these will not just be simulated), that communication may occur in areas with different magnitudes (interpersonal, group, massive, reticulate, virtual), that it may officiate a culture a priori, that this act of message creation is linked to different practices

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(artistic, literary, journalistic, organizational), and that it is difficult to imagine a dimension in which communication is absent.

Given this unattainable objective, we opt for vagrancy. When placed before an unattainable, huge mountain, one contemplates its magnificence with a hike from its base. For this reason, the present document provides, as a provocation, a transitory map (because we only have the parts, potential relationships will be the responsibility of the reader) based on *language* and *technology,* with which to re-think communication. As we adjust our references, the more detailed our cartography, the clearer the communication will appear. Each concept will be exemplified by a movie. We hope that the magic of the seventh art, in this investigative exercise, may show that these embody, in images, the bond that this possesses in the lives of all (not just academics or social communicators).

Conceptual reflection

As indicated above, no model is proposed herein, at least not in the strong sense that the term would suggest. We recognize the effort of individuals such as Eco (2000) in *El Antiporfirio,* as he shows us the way in which the arborescent logic of models prevents a view of the contamination that concepts tend to create amongst themselves. They promote thought, such that one breaks with verticality, or work such as *Mil Mesetas* (Deleuze and Guattari, 1994) and *Qué es la filosofía* (Deleuze and Guattari*,* 2006), which show that concepts may operate horizontally, rhyzomatically, and lend body to new operations that would have been impossible to conceive of within a model. In fact, the epistemological tendency that may present itself in different texts that reconstruct the history of communication theories draws on the idea of a model to explain the concrete postures of both authors and schools. We wish to distance ourselves from this, firstly, because models suppose, strictly, that a group of rules relate their elements. While these rules may be either rigid or malleable, they determine the function of communicative dynamics. There is, in all models, a type of crystallization of reality, a way to reduce their movement. This, for the effects of the present study, is notable, but in practice, it remains far removed from the natural flow of communication. This occurs because, if a model, based on the idea of communication, is produced massively, it comes up short when reticular forms of exchange emerge from texts, as they do on social networks. The model, crystalized within this theoretical relationship, fails to correspond to the transformations that, in this case, digital technologies have spurred.

This stance would seem quite comfortable, as it refuses to postulate about relationships between *language* and *technology*. This may be the case. We, however, believe that it responds to the idea that said categories should be constantly rethought, in light of the living dynamics of communication. They must be the object of new relationships, precisely because we return to them, and are aware of their story. The mark of their origin has a message to communicate. However, delineation of our tentative map, has roused, at least as suggestions or pretexts, three famous pioneering models. These explain communication as a phenomenon, and although they are situated within formal scientific models, they generate ruptures that

come into play and give passage to vanguardist proposals with cybernetic, system theory, media ecology, and complexity influence, etc.

The first of these was proposed by two engineers from the American telephone company, AT&T: Shannon and Weaver (1964). Through their work, the central interest of this duo was to think of ways to technically improve the transmission of information via telephone lines. Their proposal responds to a 'technical perspective of communication'. Their concern was for elements external to the model (which were called noise), which hampered the successful passage of information. For example, bad telephone signal reception, when one is in a rural area, may cause part of a message to be lost, as the channel is technically affected. The communication process is described thus:

> The *source of information* selects the desired *message*, based upon a group of possible messages (this is a particularly important observation, which requires considerable explanation). The message selected may be conformed of words spoken or written, or by images, music, etc. The *transmitter* converts this *message* into a *signal* which is sent by way of the communication channel, from the *transmitter* to the *receiver* (Shannon and Weaver, 1964, p. 7).

The second inspirational model was proposed by Harold Lasswell (1985), an American sociologist, associated with the functionalist theory tradition. Based upon a famous formula, which in itself composes his model, it lent body to a particular type of explanation of a communicative phenomenon with applications in the journalistic field, political propaganda, and the effects of mass media on audiences, to name just a few. It presents who says *what*, via *what* channel, to *whom*, with *what* effect. Lasswell believed that the study of communication varied functionally, depending of the element of the chain in which the analysis was concentrated. Said perspective is incredibly interesting because it permits the illustration that, when a variation in the point of view is generated (as when a concrete element of the system is studied) the study of communication is transformed. As such, our sociologist suggests changing the analysis type, depending on the fragment of the model that is to be reviewed.

> Scholars who study the 'who' contemplate factors that initiate and guide the act of communication. We call this subdivision of the field of investigation *control analysis*. The specialists who focus on the 'says that' do *content analysis*. Those who principally contemplate the radio, news, movies, and other communication channels are doing *media analysis*. When the concern is for those people reached by the media, we discuss *audience analysis*. If that which is of interest is the impact on audiences, the problem is *effect analysis* (Lasswell, 1985, p. 51).

Lastly, the third inspirational model was proposed by Roman Jakobson. The perspective from which his proposal emerges is that of language studies, specifically in the field of linguistics. In fact, this has been popularized as an explanation of the diverse functions of language, depending on the use we make of it. For example, if we focus on context, we make way for a referential function, the capacity to perceive reality (one example being

scientific reports), if we focus on the receiver, a persuasive function belongs, when the way to influence human behavior is studied (e.g. marketing messages). With this, it is shown that communication is not one-dimensional. It not only includes the transmission of messages from one place to another, as many tend to say when we are asked to explain communication, and we respond casually.

> The SENDER sends a MESSAGE to the RECIPIENT. In order for this to function, the message requires a reference CONTEXT (a reference, in accordance with other terminology, somewhat ambiguous), that the recipient may capture, whether verbal or susceptible to verbalization, a CODE of everything, or in part, at the very least common to the sender and recipient (or, in other words, the codifier and decodifier of the message), and finally, a CONTACT, a physical channel and psychological connection between the sender and recipient, which permits both of these to establish and maintain communication (Jakobson, 1975, p. 352).

If we consider this idea, which appears simple, of communication as the transit of messages, we may say, in honor and recognition of its importance, that it serves as a guide to contemplate the fact that communication supposes a relationship. While this idea is clear, it is useful to insist in that we do not wish to take for granted that the relationship occurs between two concepts that we wish to explore. Shannon, Weaver, Lasswell, and Jakobson, in their work (in different ways) express the idea of passing information from one place to another, which requires physical support to circulate, as a symbolic system by which to acquire meaning, with an undeniable relationship, which, in the absence of a better term, we will call reality. We believe that our concepts, evidently, are inspired by these three models, and constitute a type of loan. This obliges us to review these before their modeling (thus the idea of returning to the origin).

Language

Denise Villeneuve presents us with a fascinating dilemma in her movie *The Arrival* (2016). Within the framework of science fiction, it narrates the arrival, to earth, of a group of space ships that land in different areas of the globe. This intrusion causes panic worldwide. The pressing question is whether or not the new arrivals are hostile. As the story advances, we discover that, initially, there are no indications of aggression, and slowly, the new arrivals are approached. Humans, as if they were children, are consumed by curiosity, and enter the ships as explorers. They soon encounter the crew. Doubtless, they are in the presence of extraterrestrials. These travelers are difficult to describe: their bodies are oblong, and have tentacular extremities, and would seem to come in pairs. Following the first contact, and having ruled out (at least initially) hostility, the question becomes how to *communicate* with them.

The visitors seem to wish to communicate. However, perhaps for purposes of protection (we do not know whether for humans or extraterrestrials), they remain behind thick glass, separated by a large screen. Said screen may be considered a metaphor to recognize that

between two entities (in this case, interstellar races), there is always a mediator. As efforts to communicate advance, the screen becomes a place of inscription, a type of board that displays signs that, slowly, acquire meaning and establish a link and rudimentary communication. Estimologically, communication means to pool, and so, it could be said that (situating oneself) in a community creates ties with others. This film, we believe, relates to an absence that emerges, is sketched and acquires reality, in conformity with the effort to find common ground. Said absence is language. Not the non-existence of human or alien language, but the lack of a common language. The protagonists include a linguist, Louise Banks, and a physicist, Ian Donnelly, who attempt to decipher possible grammar from the lines drawn by aliens on the dividing screen.

It may be said that communication contains language, that it is a structural part of its function, a 'condition thereof'. In other words, without language, there cannot be communication. However, the debate is not cut and dried. It is not difficult to identify perspectives that ponder language as a grouping of greater magnitude, that consequently contains communication. Along these lines, communication may well be a function of language, but is not the only possibility. This does not interest us, as we believe that it is in our hands to resolve this dilemma. Its existence enriches the possibility of considering communication. We do contend, however, that the relationship between the two is essential. For any communicative process, a form of language is necessary (verbal, non-verbal, visual, graphic, etc.). Thus, language will always be a territory that merits visitation. If we do not do so, we will never know whether the aliens come in peace, or wish to make us their pets.

While we have studied language historically, the interest in its function has grown in the past hundred and fifty years. It is no surprise that, in the past century, disciplines such as linguistics, semiotics, and grammatology have emerged (or been formalized). Each of these, in their own way, uses language as an object of study. The birth of mass media may have directly influenced this. Communication, on a massive scale, has become an undeniable reality. There have been changes in behavior in multiple academic environments, given the importance of language as a mediator for the study of reality. Mathematicians were concerned about placing value on the fact that their discipline is contained within a formal language, near logic. Nascent informatics extended the use of alphanumerical codes to permit the capacity for data processing in computers. Binary code may be said to be the language of digital machines. A significant part of reality (not to say all of reality) may only be comprehended by way of some type of language.

We no longer thought just of those languages with which we communicated daily, whether Spanish, or perhaps English, which, as a commercial language, has become universalized. They are languages. We began to note something that was always right before our eyes, but that we had not seen previously: everything that surrounds us may operate as language. It may become, with certain mechanisms, a system capable of significance. Cinema, for example, reminds us of something simple, but fundamental: images are capable of communicating meaning. In its willingness, a language operates. Recall that the first movies, silent, void of voices, of spoken language, were devised to tell stories, make us laugh, scare, and excite us just with images. Geniuses like Chaplin demonstrated the ability to create meaning with this visual registry.

From one moment to the next, and this is the most important lesson of semiotics, everything that circumvented us acquired the ability to speak, to signify. Literally, the world became a sign. Signs, as Sebeok reminds us (as inspired by Peirce), are the ability of an X (and by x, we refer to anything) to represent something else, which is absent: "...a sign that is all that determined by something more (its interpreter) to refer to an object to which they themselves refer (their object) in the same way, the sign makes a change into a sign, *ad infinitum*" (Sebeok, 1996, p. 30).

If, then, we can exchange one object for another, we face a great challenge: to discover the way in which this substitution occurs. Here, there are many options. Let us say, to simplify, that man learned, as an effect of cultivating his own spirit (creating culture), to assign (by way of many mechanisms) common rules for sign work. For example, it was assimilated that a sign may have a certain continuous relationship with that which it represents, the case of a brand in the form of a U, in the sludge that we associate with that metal, or which random way may operate by substitution, for example using a dove as a symbol of peace. Note that a codification process officiates, establishes relationships, in order to create collective meaning.

In *Arrival*, our characters have the difficult task of deciphering the code that, we presume, is present in the alien language. It turns out that, as efforts to communicate with these particular visitors advance, the extraterrestrials begin to sketch on the glass screen that separates them from the surprised gazes of the linguist and engineer. Apparently, this is a type of writing. As we have learned, this is the basis of our hominization process. A sketch is a form of language that has the rank of registry. Ong (1982), for example, tells us that writing is a technology (that permits that a type of knowledge be practically materialized). The first thing our characters try is what we know how to do: attempt to discover whether the images (these graphic forms) form part of an alphabet, operate with grammar rules. A vital lesson that we have learned from the disciplines that study language, as Pardo (2001) says, is that the function of language is structural: "It is the structure, the symbolic, and not the imaginary nor the real, that produces meaning, that which transforms street noise or the sound of one's voice into meanings for language or perception" (p. 28).

Perhaps one of the important stages for our form of language comprehension occurred with the appearance of the linguistics of Ferdinand de Saussure (1954). His interest in studying language as a system left to the side (or put in suspense) a reality that, supposedly, was represented when speaking. His interest was language's mechanism, not its content. He taught that language (which functions as the substantive part of the language group) operates via relationships. The minimal elements of language (phonemes) are empty, in terms of content. They represent nothing. There is no equivalent for the letter *E* or *J*, in reality. However, when these are placed in relation to other phonemes, by proximity and difference (discretional aspect), they can hold meaning.

> All this means to say that, in language, there are only differences. Further, a difference supposes, generally, positive terms between those which are established, but in language there are only differences in positive terms. Then the

> signifier is considered, then the meaning, language does not entail ideas or pre-existing sounds to the linguistic system, but only conceptual differences and the phonic differences that result from that system [...]. In language, as in all semiological systems, that which distinguishes a sign is that which constitutes it. Its differences are what characterize it, how it creates value and unity (Saussure, 1954, pp. 144-145).

Language (in this case, language concretely) is revealed to have no substantial relationship with reality. It is not a reflection of the world. Its function, as applied in the first semiological studies, depends on the code, on the rules of combination for it to hold meaning.

Thus, linguistics was added to a revolution that indicated that language was not transparent. We know now what mediation is also necessary in order to access the world of communication. Language is not a mirror. It is the mechanism by which things appear before us. In terms of mediation, its role is to configure, as Cassirer would say, it is a symbolic form, one which permits the bestowal of meaning on our interaction with the world.

> Language has been identified often with justification or with the true source of justification, although this definition fails to encompass the entire field. Therein, one part is taken for the whole: *pars pro toto* [...]. Justification is a truly inadequate term to address the human cultural ways of life in all of its richness and diversity, but all of these forms are symbolic. As such, instead of defining man as a *rational animal*, we will define man as a *symbolic animal* (Cassirer, 1967, p. 27).

If the structure may be created, how do we think this occurs? Our world becomes a massive canvas that may appear before us in multiple ways. When we communicate, we are not simply describing the world as it is, nor baldly exteriorizing ideas. We are permitting that the world be sketched with our languages, that our ideas be formed by words, in images, in multiple strokes. To end this journey of the importance of language as a condition, as infrastructure to shape the world, to share it, and communicate with others, it is sufficient to say that our protagonists discover that the aliens, when they drew a form (similar to an ideogram) do not deliver one element to be contrasted with another (as when one uses the alphabet). In a single stroke (instantaneous), the entire thought is contained, a text that defies our idea that language operates via succession, that it depends upon chronological time.

Technology

In the midst of the second world war, following the crushing advance of Adolph Hitler's troops, one of the problems faced by the resistance, those countries that had been invaded, was the complex concealment of the orders issued to troops from Berlin, where the Third Reich was headed. The messages arrived to the battlefield encrypted, or protected by a secret code that impeded their content from being divulged. The key

to the matter was the way in which messages transmitted by the *enigma machine* could be easily intercepted. However, without access to the code, messages were simply inert, and made no sense whatsoever, a cultureless technology. This is the context in which the events portrayed by the movie *The Imitation Game,* by director Morten Tyldum (2014), are based. This *biopic* (movie that portrays a biography) tells us of the central role of Alan Turing in the midst of the bloody conflict, as a mathematician who was not only able to cut the war short (hypothetically by many years), but also laid the groundwork for modern informatics. Many have heard mention of the *Turing machine* and its ability to process information, like history's first computer.

In this film, we see the way in which Turing, together with a group of outstanding mathematicians, works in secret, for the British military, to construct a device capable of breaking the code with which the Germans ciphered their marching orders. A machine that would be capable of subduing another machine. There, we can imagine, the bases (incipient, of course) of artificial intelligence are also present. This film could speak of language, and the importance of the code makes this evident. However, we wish to pause to examine the technical effort necessary to decipher the enigmatic messages from Nazi intelligence, the difficult material process of the Turing team, which, as anticipated, achieves its goal. While the machine is a small device, similar to a typewriter, that which lies behind it is an impressive machine. Literally, we see a room inside a military base, huge, in which information is processed with perforated cards. We like to think that, behind the men who then sat deciphering messages on their small keyboards, there is great machinery, a monumental reminder of the technology necessary for said effort.

As a *biopic*, the film also reveals part of Turing's private life. His homosexuality is highlighted, a fact that, at that time, had to be hidden. Our genius, the man capable of deciphering the great enigma of the war, must live with a secret. This dimension is highlighted because the painful irony of this prompts the need to survive all that which defines us. Complex technology (Turing's machine), used to defeat the enemy in their game, and simple technology (Turing's secret) to be able to live in society. Oswald Spengler (1963), in his book *Man and technology,* tells us that technology is a survival tactic for the living:

> In reality, technology is as old as time. It is not anything unique historically, but something enormously universal. Man transcends and penetrates the life of animals, of all animals [...]. Technology is a tactic for all life. It is an intimate way to behave in the struggle, which is identical to life itself (p. 8).

Let us focus on the fact that the emphasis falls on the word tactic, which is characteristic of the military world. Tactics and strategies to defeat the enemy on and off the battlefield, as occurs in our film. Further, it is suggested that the technology is not exclusive to human beings, but of other species. Where there is life, there is a technical impulse that leads to survival, that keeps life from truncating.

We apply this definition because it keeps its distance from a relatively common mistake, associating technology exclusively with machines, or, more restrictedly, digital devices. Of course, in such cases, technology does exist, but is not used up entirely by this tool and its

amplifications. Technology exists in the hands of painters as they paint, when the bodies dance, in orders to attack another nation with the goal of domination. There is no technology, however, outside of the material universe. As indicated by Debray (1997), all technologies imply materialization: "From a paleontological point of view, the technical action is material" (p. 79). Technology materializes in the hands that learn to operate differently and adapt, there is technology in the body that modifies its mobility to rhythmically follow a melody, there is technology in military orders when troops attack the enemy, when their maneuvers in the field reconfigure the territory underfoot to defeat the enemy. Materialization occurred in the large room in which Turing and his team worked, moving knobs, pushing buttons, placing cards into the pachydermic device that could not hide its technical dimension. The materialization of technology is found in the fact that Turing decides to marry one of his female workmates (an excellent mathematician who cares for him) to dissipate doubts regarding his homosexuality. Marriage is an action of great material nature, as the marriage contract is a legal technology. Tactics are always necessary to live a bit more broadly.

For communication studies, technology has always supposed consideration of material modifications, in order to cause messages to circulate. For this purpose, the idea of the channel, which appears in the Shannon and Weaver model, has a vital role for these engineers. Their work is not so different from Turing's work. Working for a telephone company, their goal was to improve the transmission process of messages, in material terms. In other words, making use of technical resources that would be of the most optimal quality, in order to avoid information loss. Turing, in the film, while he seeks to decipher messages, does so in an attempt to improve the speed of his invention's data processing capabilities. The problem is that the machine may decode messages, if there is sufficient time. However, the Nazis change the code daily, in a 24-hour lapse. The technology is at the service of the improvement of the information, which enables access to the meaning.

However, the risk of understanding technology as a supplement remains, which is undesirable. Technology is not just a group of instruments at the service of symbolic ends. As illustrated by Duque (1986), the technical conditions the ability to modify an era. In other words, when a technical invention acquires a high degree of impact in a community, it may modify its habitat. It must be noted that Turing is the father of massive change in era, in technical terms. In its wake, digital environmental changes occur, and with these, important modifications to living practices. For communication, this is important, as we begin to create new dynamics, marked by virtualization, acceleration (for example of information), and simultaneity (spatio-temporally, we may attend nearly any event in the world), among other traits. It may be said that, with the goal of defeating the enemy, information technology generated a complete revolution in communicative dynamics and world culture.

Along these lines, Duque tells us that man (especially in the west) has underestimated technology. It would seem to be a necessary evil. We cannot be rid of it, and so it is better to hide it such that, when possible, it may pass unperceived. For this reason, when a group with a powerful technical invention occurs (Turing and his workmates), the dominant culture of the era in question resists the loss of the dominant order (British soldiers who opposed the decoding strategy, as they considered it to be innocuous).

> Groups that invent, the true *motors* of society and nature, are relegated to the periphery, and are disregarded because they do not limit themselves to reproduction. They instead *create*, thus threatening established power, but they are also feared because reproduction is as fictitious as it is atemporal, and as such, society itself requires inventors (Duque, 1986, p. 28).

In the movie, Commander Alastair Denniston illustrates the British resistance to change (dominant cultural group), as this character makes life impossible for the academics. On various occasions, he seeks to halt the project because he considers it a waste of time and resources. This conceals a hatred of that which Turing represents, a technical form of knowledge and power which escapes military control. It is imperative, then, to consider the way in which technical modifications bring transformation to the cultural spectrum Technology is a determination, as its presence always implies affectation, despite the fact that we attempt to make it invisible.

Postman has provided is a beautiful image to consider technology in the field of communication. The proposal of a *media ecology* opened the door to the idea that the performance of significant technical modifications would originate new media, for example, as the appearance of the printing press spurred the written press, which later resulted in cinema as a social institution, and the appearance of computation machines, which enabled the existence of the internet. Each new media implies cultural change.

> A media is a technology within which a culture is created. It molds the politics of this culture, its social organization, and habitual forms of thought [...]. Let us place the world 'media' together next to the word 'ecology' to explain that not only media interests us, but so too does the interaction between media and human beings, which lend culture its character, and which, it could be said, help to preserve its symbolic equilibrium (Postman, 2015, pp. 69-70).

The the media is not simply an instrument, it is not a container into which unmodified messages are discarded, but rather a habitat. Therein, cultural dynamics exist, which are, inevitably, modified. As writing (as technology) gave rise to societies with history, as the printing press spurred the emergence of democratic societies, as Turing, with his machine was able to defeat the Nazis at their own game, societies with digital communication spurred the creation of a global network, reticular communication, and culture virtualization.

To close

As suggested above, no model is offered herein. Instead, two pieces with which to create a new one are provided. We have attempted to demonstrate the way in which *language and technology* permit the consideration of communication as a process of relationships in permanent movement. In said spectrum, communication forms part of the reality in which we live (and is not simply the copy or transmission thereof). With these two concepts, many

of the elements of the models used as inspiration, and which reveal the need to address communication from multiple perspectives, are present. Their virtue is likely their breadth, as it is necessary to study the ways in which they function, how they relate to communicative dynamics, and how they may be modified in this reflective context.

It cannot be denied that the authors named rely on a paradigmatic scientific posture. *Language and technology* teach us that communication always operates as related to external concepts. When we study said concepts, their function, dynamics, and uses, we are in a place that negotiates with the plane in which we live. The way in which certain theoretical tools describe reality is described. It is necessary to think beyond communication itself, in complex terms, based upon a fabric within heterogeneous concepts (as Bateson, 1972; McLuhan, 1996; Serres, 1996; and Postman, 2015; among others, do). Communicative processes demand interdisciplinary reading and a meta-theoretical dynamic.

Language and technology have emerged as devices that both trace and configure a territory. They create drawings, erasures, like an indissoluble and reciprocal dyad, surely, as mediation (*language*) and infrastructure (*technology*) do, to create meaning. *Technology*, by way of *language* accesses feelings, and *language* modifies habitats, through *technology* use.

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