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On the Concept of Medium: An Empirical Study

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The media are a fundamental object of communication studies, but do we agree on the definition of this term? Since the 1990s, technological convergence has modified the mediascape and complicated the distinction between technical device and communication channel. Today, people can read the newspaper on a smartphone and watch television on a computer screen—a situation that makes it compelling to reflect on what a medium actually is. To discover whether agreement on this matter exists in academia, we consulted members of the editorial boards of some of the leading journals in the communication field. Based on the results of a two-step survey, the article reflects on the theoretical status of media studies and some features of the field.

Keywords: *medium, media studies, media theory, academic work*

What is a medium? This was the simple question we posed to members of the editorial boards of some high-impact-factor journals in the international field of communication. This article discusses the results of this empirical study concerning the definition of medium as a theoretical object.

At the outset, a few words must be dedicated to the motivation behind our research. Until the 1990s, such a question would have been dismissed as an oddity or as being built on a misguided philosophical ambition. An empirical example would have sufficed in defining the object. Television, radio, or the press, while displaying their own technical specificities, were part of a broader category—the media, or the mass media—that did not require further specification. Television, for example, was identified with the idea of "flow" (Williams, 1974)—a definition that has only recently started to be questioned in light of the time-shifting and place-shifting nature of technological innovations that render concepts such as schedule and channel almost meaningless for younger generations (Mittell, 2011, pp. 49–50). Communication studies developed around the media without ever feeling the need to define them. For example, it was clear that "cinema" and "photography" referred to two different objects that were part of the same class, and, for practical purposes, this was enough. Nonetheless, something significant was missing.

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In "The Relation of Environment to Anti-Environment," Marshall McLuhan (1998)—one of the few classical authors who put the concept of medium at the core of his thinking—noticed that we usually pay attention to a medium only when it is replaced by a more advanced technology. According to McLuhan, media give shape to our cultural and perceptual environment, thus making it impossible to observe them from the outside. That is, if a medium is in a "dominant" position, then it is difficult to scrutinize from a scientific perspective.

Before the digital revolution, the distinctions between different media reflected the differences between particular transmission channels. Since the 1990s, however, we have witnessed a convergence process between acoustical, optical, and audiovisual media that has vastly changed our communication environment. Such an evolution also engendered a theoretical response. Friedrich Kittler (1999) once stated that the "formerly distinct media of television, radio, telephone, and mail converge," thus becoming "standardized by transmission frequencies and bit format" (p. 1). This idea was destined to appear again in media studies and to be eventually codified by Lev Manovich (2001) in his definition of the computer interface as a "meta-medium" (p. 90). In more recent years, though, this theoretical issue has become more pressing, as evidenced by studies on the genesis of the "medium" concept (Guillory, 2010) and by the publishing of a German book suitably titled *Was ist ein Medium?* (What is a medium?; Münker & Roesler, 2008).

The issue is far from being purely theoretical. When we read the newspaper on our smartphones or watch television on computer screens, we witness not only the transformation of the very nature of these media but also the emergence of a series of new problems that span from business strategies to the language of contemporary media. Above all, this situation requires some reflection about what the object of the research in media studies really is. In fact, as bizarre as it may seem, the field has evolved without unanimous agreement on an operational definition of media. It is a definition traditionally taken for granted rather than being properly problematized. Indeed, this reflection seems significant for the future development of the field.

The relationship between the operational definition of the research object and the scientific field is more controversial than one might expect. As Luigi Luca Cavalli-Sforza and Mark W. Feldman (1981, p. 53) noted, the consolidation of Darwinian theory preceded, and did not actually require, the discovery of the main laws of genetics. In other words, evolutionary theory had become a paradigm in natural sciences even before the discovery of the gene (its research object). From the perspective of Cavalli-Sforza and Feldman, this precedent legitimizes the idea of studying the evolution of culture, even though the gene's equivalent—the meme, according to some scholars, or more simply the ideas in one's work—has not been clearly understood. To some extent, we can detect a similar paradox in the field of communication studies that has been growing without common agreement on the nature and definition of the research object. Throughout the history of media and communication studies, researchers have preferred to focus on topics such as content (Berelson, 1952; Fiske, 1987; Hall, 1997), related industries (Turow, 1984), and audiences (Moores, 1993; Morley, 1980). Consequently, media studies encompassed research from a wide range of social, cultural, political, and economic contexts in which media play a significant role. It can be argued that this description actually defines the field of study as we know it. It is also understandable that researchers have not felt the need to determine a single definition of medium up to this point. The digital revolution has

spotlighted this limitation, however, throwing it into stark relief. Far from offering a definitive answer to such an ambitious question, this article solely aims to provide insight into this issue.

Given that technological convergence results in the impossibility of identifying technical means and communication channels—that is, medium and function—the scientific community seems to be called on to rethink the definition of medium itself. It is no coincidence that we have seen a resurgence of medium theory that is focused on the ontology of the medium itself, and the power of innovation has restored relevance to authors such as McLuhan (1962, 1964), Kittler (1999), and Vilém Flusser (1997), who explicitly discuss the conditioning power of technologies.

We have arrived at similar conclusions by looking at media from a cultural perspective. For example, Lisa Gitelman (2006) defines media "as socially realized structures of communication, where structures include both technological forms and the associated protocols, and where communication is a cultural practice" (p. 7). Indeed, changes to these structures are no less significant than technological changes have been. Both cases demonstrate that taking old, implicit assumptions about media for granted may not be particularly clever.

Starting from these premises, we conducted an exploratory investigation into the status of media studies. We consulted the international academic community by disseminating a two-step survey with open questions (step 1) and closed questions (step 2). Because our main interest is to understand how medium is conceived by scholars in their research—to discover what conceptions of medium dominate the field—we preferred this methodological approach to conducting a literature review.

The Sample

Our sample was composed of scholars on the editorial boards of five leading journals in the communication field: *Communication Research*, *Research on Language and Social Interaction*, *Journal of Communication*, *New Media & Society*, and *Public Opinion Quarterly*. More precisely, in 2014—when we first had the idea of carrying out this survey—these were the highest-impact-factor journals in the field, according to the Journal Citation Report (with data related to 2013).[1]

The last available data when we conducted the research—early 2018, with data related to 2016—confirm the relevance of these journals, according to both the Journal Citation Reports and the SCImago Journal Rank indexes. *Communication Research* ranks fifth and seventh in the two indexes, respectively; *Research on Language and Social Interaction* ranks 17th and second; *Journal of Communication* ranks third and first; and *New Media & Society* ranks first and fifth. *Public Opinion Quarterly* ranks 11th in the SCImago

[1] Journal Citation Reports is an annual publication by Clarivate Analytics that provides information about academic journals. Among the data reported, the impact factor measures the average annual number of citations received by recently published articles in any given journal; often, this is used by research institutes to evaluate the work of the researchers. An alternative metric is the SCImago Journal Rank, which accounts for both the number of citations received by a journal and the importance or prestige of the journals where such citations come from.

Journal Rank index and 31st in the Journal Citation Reports index, but is number two in total number of citations.

We first contacted 332 scholars—a number we deem to be sufficient when considering that many of these scholars are also on the boards of other high-impact-factor journals. Taking the exploratory nature of the survey into account, we decided to limit the survey to the five selected journals. As may be apparent, this sample is not representative of media studies in its entirety, but it can be considered a privileged observation that reveals the methods and concepts that are most common in the field. It is true that the scientific approaches adopted in these journals show certain heterogeneity; however, this is a typical feature of media studies, where a constant tension between specialism and multidisciplinarity is easily observed. Finally, the fact that the sample relies on scholars based in American universities is a natural consequence of the current organization of the field.

The First Step: Open Question

In the first step, we approached the members of the editorial boards of the three top-ranked journals (*Communication Research*, *Research on Language and Social Interaction*, and *Journal of Communication*) and asked them to provide a basic definition of medium:

> We were hoping that, according to your personal research and in your own terms, you would like to concisely answer the following question: What is a medium?

The 61 answers we received form the basis for the second stage of the survey and deserve some reflection. First, a notable number of scholars—13 out of 61—stated that they were unable to provide an exact definition of medium. This is partially due to the scholars' specializations; some of them primarily focus on interpersonal communication. At the same time, this result reveals something about the vague paradigm of media studies. As one scholar noted, "the theoretical dimensions of 'medium' could take an entire book manuscript to address."

In fact, when it comes to determining a cogent definition, the difficulty lies in excluding useless elements. Therefore, it is not surprising that many answers draw on an expansive conception of medium:

> Medium is a means for communicating culture and meaning. (Vicky Maier)

> Any entity that enables two or more parties to communicate who might not otherwise be able to do so. (Philip Glenn)

> The means by which information (messages) are transferred (exchanged) between two or more systems. (George A. Barnett)

> Any intermediary substance or artifact along or through which signals are transmitted. (Brian Spitzberg)

> Any substance or technology that can convey information, materials, or processes between entities. (Thomas William Valente)

These answers cover the widest semantic range of possible meanings and thus highlight a common problem: the relationship between a definition's breadth and depth. And the last three suggest a more complicated element as they refer to an interpretation that merits specific scrutiny, even though it is not prevalent enough to be part of the next stage of the survey. In fact, the reference to any *substance* likely to mediate in a communication process is in clear contrast to the idea of medium as associated with a technology and that includes all the natural elements of the infosphere, such as the human voice or the airwaves.

> We have here some sort of primary media (voice, movements, etc.) in co-present interaction, and secondary media (video cameras). (Jacob Steensig)

> A medium is what helps communication messages to travel across time and/or space. It used to take place primarily via natural conduits such as light, airwaves, or the human body. But increasingly a medium takes the form of manufactured technologies such as printing, broadcast, and the Internet. (Jack Qiu)

> From this perspective, then, there are *natural* media, such as oxygen/nitrogen for sound waves, and sticks and trees for drumming, or light to see hand-waving, or fire for smoke signs or signals. Then there are *technological* media that we are more accustomed to considering in the field of communication, which I would take to be any human engineered or tool-based alteration of natural media to alter and transmit signs or signals. Under this category fall most of the ancient media such as writing systems and cave paintings, etchings in stone (Code of Hammurabi), papyrus, parchment, paper, and later 19th- and 20th-century inventions to carry signals (e.g., telegraph, cameras, telephone, electric lights, cables, kinetoscope, wireless radio, audion, kinescope, etc.). (Brian Spitzberg)

The elements of voice and movement, or oxygen and light, are not ones that we are used to including in our definition of media, because they are commonly opposed to the realm of *mediated* communication. In this sense, the typical answer we received follows the path of John Thompson's (1995, pp. 121–168) distinction between face-to-face interaction, mediated interaction, and quasi-mediated interaction. In this largely accepted idea, media belong to the domain of technological mediation—they appear precisely where the domain of the body, face-to-face interaction, and immediate physical contact ends. On the other hand, such an extensive definition of media also includes the elements that constitute the physical context of the interactions. The implications of such broadening are difficult to assess, but, without a doubt, the distinction between primary and secondary media—or between natural and artificial media—carries significant theoretical consequences.

John Durham Peters (2015) has developed this perspective, retrieving a broader and more ancient definition of medium that precedes the rise of newspapers, radio, and television. As Jochen Hörisch (1999) put it, until the 19th century, the word "media" usually referred to natural elements such as water, earth, air, and fire. By drawing on the same tradition, Peters states, "The old idea that media are environments can be flipped:

Environments are also media" (p. 3). It is a change of perspective that implies a huge broadening of the media studies field: "If media are vehicles that carry and communicate meaning, then media theory needs to take nature, the background to all possible meaning, seriously" (p. 2).

One of the most relevant issues that this research brings to the fore is the separation between media-related issues and human communication. This is not a completely original proposal, but Peters (2015) states it in an explicit way. It is not possible to say, for instance, that clouds or fire communicate something, because they are not structures "intentionally designed to say something to someone"; however, they have meaning as "repositories of readable data and processes that sustain and enable existence" (p. 4).

The theoretical implications of such a consideration are clear when we reflect on the functions performed by digital media. According to Peters (2015), compared with 20th-century media,

> Digital media traffic less in content, programs, and opinions than in organization, power, and calculation. Digital media serve more as logistical devices of tracking and orientation than in providing unifying stories to the society at large. Digital media revive ancient navigational functions: They point us in time and space, index our data, and keep us on the grid. (p. 7)

However, such a broad definition raises two key issues—the same issues that inspire this article. First, a broad definition may be theoretically compelling, but it comes at the expense of operational value: The more general a definition is, the more inutile it may become. Second, media studies have been growing since the 1930s exactly by following innovation while being shaped by all the specificities of 20th-century media; accepting a broader (even metahistorical) interpretation of media runs the risk of jeopardizing this theoretical identity.

Another point of interest is the absence of definitions based on the collective (or mass) aspect of the mediated experience—in a word, the role played by *audiences*. Generally speaking, it is possible to think that an ex post definition—based on users' expectations rather than on media's objective properties—could provide a solution to our dilemma. In other words, given this theoretical uncertainty, we could logically limit ourselves to define radio, television, and cinema in terms of what audiences perceive radio, television, and cinema to be. This depends on a series of protocols (Gitelman, 2006), on a system of expectations about a specific kind of interaction, certain services provided, or some characterizing content. In our survey, however, we found little reference to what sociology would define as commonsense knowledge of media, which comes from experiencing it every day. This result strikes us as surprising, because, in a convergence era, such perspectives have the advantage of being able to explain some apparent oddities such as, for example, watching television on a phone.

Most of the academic definitions of media, as shown in a complete review, can be clustered according to the importance given to traditional factors: sender, message, receiver, channel, effects, and embedded social relations (Potter, 2013, pp. 26–27). This approach seems to be based on Harold Lasswell's (1972) famous "five W" model, but our results show a different reality, maybe because we asked for a

definition of medium in the broader sense rather than of *mass* medium. As always happens, this choice is questionable. Our aim, however, was to ask a neutral question, devoid of strong theoretical biases, and we believe that any reference to the "mass" concept would have fostered interpretations grounded in the sociohistorical dimension.

In the results, it is interesting to observe that the answers that rely on a broad definition of medium are mirrored by many others that, on the contrary, can be defined as being reductive (see Table 1). Expansive answers, on one hand, call on the whole communication ecosystem—the "holistic" analysis of media (McQuail, 1983, pp. 4–6) and their role in terms of agency—or even the field of nontechnological mediation. Reductive answers, on the other hand, consider media simply as a way of carrying information. Inevitably, the most used word in our first survey is *channel*, which is mentioned 10 times (nine times alone and once as "channel or platform").

Table 1. What Is a Medium? Reductive Answers.

Definition	No. of occurrences
Channel	9
Means	3
Device	2
Channel or platform	1
Combination of format and technology	1
Object/entity	1
Physical means	1
Physical material	1
Technical means	1
Technology	1
Things that carry a message	1
Vehicle	1
What helps communication	1

This technical idea of medium as a channel of communication recalls the mathematical theory of information and the considerations of Claude Shannon (1948): "The *channel* is merely the medium used to transmit the signal from transmitter to receiver. It may be a pair of wires, a coaxial cable, a band of radio frequencies, a beam of light, etc." (p. 380). Such a reductive interpretation is perfectly fitting for Shannon's work, whose goal was to detect "the effect of noise in the channel, and the savings possible due to the statistical structure of the original message and due to the nature of the final destination of the information" (p. 381). It is more surprising to observe its massive presence in the field of media studies 70 years later. We can argue that the frequency of this answer is due to its simplicity: It is the quickest and most intuitive solution to an otherwise complicated issue. As confirmation, the second most common definition—"means," with four occurrences—relies on a similar, instrumental interpretation of what a medium is. However, the popularity of a definition that supports such a neutral concept of medium is unanticipated considering the revival and prominence of McLuhan's theories in recent years and the concurrent debate about the so-called apparatus, the digital ecosystem, and the remediation process (Bolter & Grusin, 1999; Fidler, 1997). As one of the participant scholars noted,

> "Channel" runs the risk of seeming too neutral—a simple conduit for pre-packaged material. I might not go so far as to proclaim that the medium is the message, but certainly I am cognizant of the interdependence of medium and message. Selections among various ways we might do interpersonal acts (tell a story, end a relationship, give or seek comfort, make a request) are significant components of the act and its interpretation. Features of media constrain and enable acts, identities, relationships. (Daena Goldsmith)

Although some scholars deal with this complexity, references to sociotechnical approaches are notably absent. Neither Raymond Williams's (1974) idea of TV as both technology and cultural form nor Patrice Flichy's (1995, p. 83) analysis of frames of functioning and frames of use are discussed. Other important theoretical traditions, including Niklas Luhmann's (1995) idea of media as means of self-organization of the system (see also Geisler, 1999) and Walter Benjamin's (1969) recently revitalized (Casetti, 2015; Somaini, 2016) work on mechanical reproduction, are missing from the discussion as well.

If neutrality is one of the issues—something we will refer to as a "weak theoretical program," opposed to a "strong" one—the other problem of these answers is their vagueness. "Channel," "means," and "vehicle" all refer to generic categories, and this is especially noticeable in answers that mention "thing," "object," or "what helps communication." The latter illustrates the problem, given that the form is so hard to detect that it can be replaced by the function. Broadly speaking, reductive answers reveal the difficulty of isolating the main research object, which is, again, a confirmation of the overall condition of media studies. From this point of view, according to Thomas Kuhn's (1962) famous idea, media studies seem to be in the stage of a "latent paradigm," where a universal agreement on concept and methods is still to come (and, of course, it may never come).

The Second Step: Closed Question

In the next stage of our survey, we drew on the collected answers to define a closed question. Then we submitted the following question to all the researchers in the sample who did not respond to the first e-mail:

> Which of the following definitions would best define the concept of medium that explicitly or implicitly appears in research? [One or more answers are possible.]
>
> 1. A technology that transfers information.
> 2. A mediation technology or channel, including vis-à-vis communication.
> 3. A nonneutral technology, likely to shape contents and to affect human perception.
> 4. An agent for the spread of symbolic signals through time and space.
> 5. A subsystem able to reduce the complexity of meanings.
> 6. Other; please specify.

As shown above, we synthesized all the open answers into five possible definitions, starting with the most neutral (1) and the one that includes all the nontechnological channels (2). Then we considered the answers

that imply a strong concept of medium, with an emphasis on the power of shaping cultural contents and producing social effects (3). For example,

> A medium is any device that carries content to an audience. A book is a medium. A mobile phone is also a medium. Each medium affects the ways in which content is produced and shared. (Lance Bennett)

Answers like this one are clearly influenced by Marshall McLuhan's lesson on the power of technologies. However, all references to McLuhan were implicit, with one exception:

> I like Marshall McLuhan's definition: An extension of the self. I might also add my own sense of what a medium is, which is that it is a technological facilitator of communication *and* the social uses to which the facilitator is put. (Barry Brummett)

These first three options cover most of the answers to the first survey.

The other two options evoke more sophisticated interpretations of media nature, such as those in the following four examples:

> Well, a medium is something that mediates, that is, something through which people interact with one another or with the world. I would say it can be conceived as an institution or as a technology, broadly understood. (Dan Hallin)

> In the United States today, people conflate what I call medium with things like news organizations, devices, social practices, social norms, and so on. (David Tewksbury)

> I have never thought of defining medium, but since you ask: A medium is a subsystem for negotiating the meaning of partial physical representations of system elements. In other words, a medium is a physical reduction of the meaning of some totality to some partial and thus necessarily ambiguous representation. (Austin Babrow)

> A medium is a resource that allows for the creation of meaning. A medium is used to help establish the abstract playing field of communication. We communicate abstractly through symbolic conventions—including language, images, sounds, and digital gestures—because we are unable to connect with others on a direct level. As John Peters argues, human beings use media to connect abstractly to help overcome the fact that we are fundamentally unable to achieve "pure communication." In that sense, a medium is a resource that allows people to construct and participate the abstract domain of social experience. (Scott Campbell)

Answers 4 and 5 are based on the idea of medium as a form able to shape human action. Number 4 focuses on the dimension of space-temporal compression, and number 5 focuses on a sociological concept, as reduction of complexity. As is common practice, we included a residual category (6), an option that helps

us avoid overinfluencing the answers of the participants as they did not respond to the open question in the first step.

Overall, we collected 101 answers that lend themselves to discussion (see Table 2). The first relevant finding is that the highest occurrence of the broadest definition included both the technological and the natural dimensions of mediation. Moreover, fewer answers highlight the centrality of the technology—the first and the third, with a total of 28 occurrences—than those that include general aspects of agency and intermediation (47 occurrences, by summing the answers to the second and fourth option). The possible reasons for these results are numerous. For example, a bias might exist toward the most generic answer, which could be explained by the fact that some scholars work in the broader field of communication rather than in mass communication theory (as in the case of the board of *Research on Language and Social Interaction*). Nonetheless, our findings strongly suggest a need to reflect on the centrality of nonmediated communication. This is quite surprising in light of current debate on issues such as mediatization (Couldry & Hepp, 2013; Hepp, Hjarvard, & Lundby, 2015), the role played by algorithms (Fuller, 2008; Manovich, 2013), and the integration between mediated communication, robotics, and wearable technologies (Floridi, 2014; Turkle, 2011). However, the reason for this result may be related to the structure of the academic field and, specifically, in the overlap between the sociology of communication, which deals with every interactional and cultural exchange process, and the sociology of media in a stricter sense.

Table 2. Answers to the Second Survey.

Definition	No. of occurrences
A technology that transfers information	17
A mediation technology or channel, including vis-à-vis communication	28
A nonneutral technology, likely to shape contents and to affect human perception	11
An agent for the spread of symbolic signals through time and space	19
A subsystem able to reduce the complexity of meanings	1
Other	7
Combined answers (see Table 3)	18
Total	101

A second relevant issue involves the preference of neutral, nonbiased answers over more structured and theoretically binding options. Considering the presence of alternative options, the high number of answers (26) that limits media to a purely instrumental function cannot, in this case, be explained by the simplicity of the definition alone. Symmetrically, it is worth noting the somewhat low occurrence of answers that rely on a strong conception of media (25) and their capacity of shaping reality. To some extent, this is unexpected, because recent technological innovation has seemed to breathe new life into those theories based on the power of technologies and their ecological impact. All the discussions about medium theory and the modernity of McLuhan (also triggered by the centenary of his birth in 2011) appear, therefore, to affect media studies only partially, without being able to significantly shape their scientific protocols.

The results of our research, regardless of their limitations, suggest the existence of two approaches. On one hand, there are a handful of frequently cited studies that, in different ways, work on the macrotext of medium theory and deal, to varying degrees, with McLuhan's determinism. Such is the case in Lev

Manovich's software studies (2013), Geert Lovink's (2011, 2016) platform studies, Bolter and Grusin's (1999) work on remediation, and Manuel Castells' (1996, 2001) research on the "Internet galaxy" and the power of network. Nevertheless, such strong theoretical positions coexist with what we could define as normal research activity, presumably grounded in empirical work and, therefore, likely to adopt a simpler and less binding definition of medium. To some extent, Joshua Meyrowitz's (1985) distinction between "media theory" and "medium theory" provides a good synthesis of the problem. According to Meyrowitz, media theory deals with "cross-cultural" approaches, while medium theory focuses "on the particular characteristics of each individual medium" (p. 16).

Last, we consider the answers that we could define as residual: those that combined more than one option and those that did not fall into any category. In the latter case, some scholars focused on the importance of human communication rather than mediation (one occurrence), on the relevance of institution and organizations and to the spread of information (two occurrences), on the process of semiosis and signification (two occurrences), or on the issue of natural media (two occurrences) that we previously discussed.

Table 3 displays a synthesis of the occurrences for the 18 combined answers.

Table 3. Combined Answers.

Answers	No. of occurrences
A technology that transfers information *and* A mediation technology or channel, including vis-à-vis communication	3
A mediation technology or channel, including vis-à-vis communication *and* A nonneutral technology, likely to shape contents and to affect human perception	3
A mediation technology or channel, including vis-à-vis communication *and* An agent for the spread of symbolic signals through time and space	1
A nonneutral technology, likely to shape contents and to affect human perception *and* An agent for the spread of symbolic signals through time and space	4
A technology that transfers information *and* A mediation technology or channel, including vis-à-vis communication *and* A nonneutral technology, likely to shape contents and to affect human perception *and* An agent for the spread of symbolic signals through time and space *and* A subsystem able to reduce the complexity of meanings	2

A technology that transfers information *and* A mediation technology or channel, including vis-à-vis communication *and* A nonneutral technology, likely to shape contents and to affect human perception *and* An agent for the spread of symbolic signals through time and space	2
A technology that transfers information *or* A mediation technology or channel, including vis-à-vis communication *or* A nonneutral technology, likely to shape contents and to affect human perception *or* An agent for the spread of symbolic signals through time and space	2
A mediation technology or channel, including vis-à-vis communication *or* A nonneutral technology, likely to shape contents and to affect human perception	1

The way these answers are assessed and evaluated is a delicate matter that can be tackled in two ways. At a simple level, they can be interpreted as an indication of the problematic status of media studies, still unable to reach a consensus on the operational definition of its main concept. The simple fact that half of these combined answers (nine out of 18) contain the basic definition—medium as a technology for transferring information—may provide confirmation of this. Another clue is that some responses combined four of five different answers, which basically equates to no definition at all. At a deeper level, though, this theoretical vagueness may be the result of a serious investigation of the concept and its analytical strength:

> To some extent, all of those definitions capture some aspect(s) of what is entailed (conceptually or in practice) by the term "medium." All of them could be seen as meaningful definitions. (Michael Morgan)

> Most definitions offer a series of alternatives, in a dictionary; few important terms are used in a single way. The first four all capture aspects of the term that in various contexts may be useful; the fifth is the only one that seems problematic. (Michael Slater)

Basically, the difference between the complex and the simple interpretation lies in a small grammatical variation: the use of the disjunctive form (*or*) in favor of the conjunctive one (*and*). When a medium is said to be this *or* that, it is not implying that the definitions are equivalent. Equally, more than one can be valid because each one recognizes a different aspect and can, therefore, be useful for a specific purpose of research.

This assumption could be considered as a starting point for a more advanced evaluation of media studies. Evidently, it cannot settle the problem, but it conjures the classic metaphor in social science of the tool kit, a collection of concepts we can pick from, occasionally applying the most useful ones.

This matter is strictly related to the "multiple criteria" of classification. As Howard Becker (1988) put it, "We seldom define phenomena by one unambiguous criterion"; we instead tend to rely on a multiplicity of factors. As a consequence, the real objects—any given medium, in our case—rarely "have all the attributes required for them to be, unambiguously, members of a class defined by multiple criteria" (p. 128); therefore, how to classify them becomes an issue of the utmost importance for the organization of scientific work.

Conclusions

Working on the operational definition of media, as we have done, means addressing the overall organization of media studies. Despite the limitations caused by the sample's restricted scope and the inevitably arbitrary selection process of its participants, we propose this study as a first academic endeavor to be used in future in-depth analyses.

In fact, from the standpoint of a sociology of academic work, agreement and disagreement on the definition of scientific objects may provide an important insight into the status of the discipline overall. In this sense, the concept of medium appears to be highly significant because of its importance in any perspective within media studies, regardless of whether the focus is on the sender or the receiver, the approach is synchronic or diachronic, the perspective is apocalyptic or integrated, or the methods are qualitative or quantitative. For this reason, while being careful not to make generalizations, the absence of agreement that our research reveals prompts a final reflection about the epistemological foundation of media studies.

To some extent, the results did not come as a surprise, because media studies is still an embryonic discipline condemned to remain in pursuit of technical innovation. These two factors perhaps explain why media studies has not entered the stage that Kuhn (1962) calls "normal" science, where scholars are mostly engaged in fine-tuning the paradigm, articulating—and not questioning—widely accepted theories (p. 24). In this sense, it is perfectly acceptable to ask whether the problems of classification and definition shown in our research might suggest that media studies is still in its "pre-paradigmatic" stage, with little in the way of consensus regarding fundamental principles. Nevertheless, our findings do not reveal the theoretical effervescence that pre-paradigmatic science is supposed to bring with it. On the contrary, the high occurrence of reductive answers, along with the willingness to accept incompatible definitions, seems to reveal little interest in strong theory or even theory in general.

Explaining this ambiguous situation is well beyond the goals of this article. Indeed, we merely aim to advance the hypothesis that it is caused by the diverse nature of media studies. In this respect, we can apply the considerations that have been made over time of the communication field by authors such as Schramm (1963), Paisley (1984), Peters (1993) (using the image of the archipelago), Craig (1999), and Pooley and Park (2013). In terms of its historical development, media studies has been for many years the crossroads where heterogeneous scholars have met. Sociologists, psychologists, economists, political scientists, and other academics from disparate fields have brought with them their own concepts, methods, and theoretical problems without properly reflecting on the foundations of a science of media.

The same factor can also explain the oscillation between a weak definition of medium—especially apt for an interdisciplinary field—and a strong definition of medium, which, from Harold Innis (1951) to Régis Debray (1991), has appeared several times but never became hegemonic. This oscillation calls to mind Thomas Kuhn's dialectics between normal and revolutionary stages. Or, given that Kuhn paid little attention to humanities, one may be reminded of Max Weber (1949) and his idea of an alternation in the realm of social sciences between periods characterized by "the attempt to order reality analytically through the construction of concepts" (p. 105) and others, when the same theoretical frames are questioned and transformed.

According to the weak conception, media are nothing but neutral instruments in the communication process, seen as mere channels that transport information. Alternatively, the strong conception assumes that they have the power of shaping human reality. In this second hypothesis we see, to some extent, an analogue of the strong program in sociology of science (Bloor, 1976)—the backdrop against which Alexander and Smith (2001) tried to define the protocol of a "cultural sociology." By drawing on the original idea of a strong program in sociology of science, Alexander and Smith call for an autonomy of sociology of culture achieved by treating culture as an autonomous variable rather than as a product or reflection of the social structure (pp. 137–138). Similarly, the most ambitious definitions of media can pave the way to a strong program in media studies, a framework where the medium is seen as a key factor of social change and, thus, as a privileged scientific object. This was the case in Harold Innis's (1951) long duration history that was based on the concept of bias; this was followed by McLuhan (1969), whose goal was, not accidentally, "to map new terrain rather than chart old landmarks" and who described himself as interested in "the process rather than the completed product of discovery" (p. 54). After the Toronto School, however, one of the few attempts to organize this framework was Régis Debray's (1991) perspective on the evolution of symbolic spheres. Thus, despite the universal dissemination and growth of media studies, the strong program still seems to be in its preliminary stage, far from becoming a shared, accepted scientific protocol.

This portrait of a field split into two parts seems to be confirmed by our findings, which show a clear (and substantially balanced) separation between weak and strong definitions of medium. However, further investigations will be needed to determine the overall proportions between different interpretations and to understand the extent to which the digital revolution is putting the medium at the core of scientific debate.

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