

The Rise of Accessibility Studies: Abuses, Misuses and the Method of Poietic Design

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Abstract. Over the past several decades, accessibility has been increasingly pervading a vast range of fields, producing a large number of new ideas, theories, and innovations that have already proven to be quite fruitful. A closer look at how accessibility has entered and developed in various research fields shows that said fields have experienced fundamental changes: a shift from particularist accounts to a universalist account of access, \neg a shift from maker-centred to user-centred approaches, and a shift from reactive to proactive approaches. Through these processes, accessibility has birthed new areas within those fields, that have been gradually converging to constitute the wider field of *accessibility studies*. The nature and position of accessibility studies has now become a central topic. This ongoing progression of conceptual clarification may bear some misunderstanding and misinterpretations along the way. In the paper, I first briefly review the principal traits of the process of formation of accessibility studies; then address some possible misconceptions; and finally, introduce a first, very general sketch of poietic design, a method proper to accessibility studies.

Keywords: Accessibility Revolution, Accessibility Studies, Audiovisual Translation, Design, Human Rights, Maker-User Gap, Maker-Expert-User Gap, Media Accessibility, Poietic Design, Universal Access in Human-Computer Interaction.

1 Introduction

Over the past decades, accessibility has been increasingly pervading a vast range of fields, producing a large number of new topics, theories, and innovations that have already proven to be quite fruitful. Upon closer examination of how accessibility has broken into and developed in these fields shows that the fields themselves have been experiencing a series of shifts. Through these processes, accessibility has given rise to new areas within those fields, that have been gradually converging to constitute the wider field of *accessibility studies* (AS)[1-4]. As in any process of emancipation, where an individual claims her autonomy and individuality once having reached maturity, this ongoing progression of conceptual clarification may bear some misunderstanding and misinterpretations along the way. They are physiological, due precisely to the emancipatory dialectic between an individual (AS) and her peers (other well-established

fields). My goal in this paper is threefold: (a) to briefly review the principal traits of the process of formation of AS in order to (b) add a few more tiles to the mosaic of AS while (c) addressing some possible misconceptions. Which means that this paper should be read as an additional contribution on the path towards the academic maturity of AS. For this reason, the paper is divided into two parts. In part one, I briefly recall the main characteristics of the process of formation of AS and mention some of its defining features. This part, which corresponds to the next three sections, summarises aspects that I have addressed more extensively in [1]. Therefore, I refer the reader to that paper for a more detailed discussion. In the second part, I begin by addressing some misconceptions that may lead to misuses and abuses of AS and then conclude by introducing a first, very general sketch of a method proper to AS, namely poietic design.

2 The Accessibility Revolution

Access is a central concept in human life. As discussed by Lakoff in his analysis of freedom as a metaphor: “you are not free to go somewhere, get something, or do something if access is blocked, or if there is no path (or road or bridge) to it. Freedom requires not just the absence of impediments to motion but also the presence of access. Inhibiting freedom is, metaphorically, not just throwing up roadblocks, holding one back, taking away power, imposing burdens or threats or harm, but also failing to provide access. [...] The metaphor of freedom as freedom of motion thus has two important parts: freedom from and freedom to. Freedom from concerns those things that can keep you from moving. Freedom to concerns making sure there is access” [5]. The freedom examined by Lakoff is not freedom as a human right but the very general, archetypical concept of freedom.

The importance of access for human life and thought has become even more evident through the debate on human rights. Within this context, accessibility began to make its way to the forefront towards the end of WWI and then subsequently, through the widespread movement that led to the adoption of the *Universal Declaration of Human Rights*. Human rights rest upon two intertwined grounds: human dignity and access. The concept of human dignity usually sets a minimum standard of quality of life an individual is entitled to for the sole reason of being a human being. Such a standard is often defined by a series of material and immaterial goods thought to be essential for every individual. Yet, setting up a public education system does not suffice for a state to claim that it is respecting the right to education for all, if said system does not also provide the means to access for every student. Guaranteeing the conditions for the existence of those fundamental goods is a necessary but not sufficient condition for human dignity. The possibility to have actual access to them also needs to be in place [6]. Thus the reason why human rights, e.g. the human right to education, are expressed in terms of the “human right to access to”, e.g. “the human right to access to education” [4]. Having access means, for example, being able to use, interact with, and enjoy those fundamental goods. That is, accessibility entails both quantity and quality of experience. Though human rights consist of a (series of) theory(ies) and there is plenty of scholarship that rejects them, they have indeed shed light on the crucial role of access

in many human activities, bringing it to the forefront of theoretical, social and political debate. Thanks to the cultural revolution they have produced, it has become clear that access is a *necessary requirement* in the most varied aspects of our lives. From this point of view, accessibility then acts as a *proactive principle*, which calls for a proactive attitude to comply with the access requirement [4].

In order for the accessibility revolution to fully blossom however, a second condition was needed; this time related to the nature of our world and the ways in which we access it. It needed the information revolution. A 2004 preparatory document for the UNESCO World Summit on the Information Society warns about the “reconfiguration of access” enabled by information and communication technologies (ICTs), which is challenging “fundamental social and political notions of freedom, control, personal responsibility, and shared community values” [7]. By reconfiguring in an unprecedented way how we access the world, ourselves and others, ICTs are creating new social inequalities through the formation of multiple divides, beyond the traditional framing of a digital divide between those who have physical access to ICTs and those who do not. In the information society, accessibility becomes the grounds on which power negotiations and social struggles take place.

Rooted in the human rights revolution and boosted by the information revolution, accessibility has been leading a revolution of its own. The question of access tackles the very foundations of our society. It has become so all-encompassing that some say we are living in “the age of access” [8]. This is highly evident in research. The revolutionary effects of accessibility have been producing a *paradigm shift* in various fields, from transportation studies to human-computer interaction, from geography to engineering, from design to sustainability studies, from translation studies to cultural heritage, from education to tourism studies, just to name a few [9-14]. Briefly mentioning two cases may help highlight this point. Acknowledging that providing access to digital information goes beyond mere technical issues, researchers have started to develop an entirely new approach based on accessibility in order to investigate issues of digital sustainability. It is an approach that has subsequently produced foundational ramifications for the whole field of sustainability studies. Since “access concerns can be considered a prerequisite for sustainability”, then accessibility becomes “a necessary step towards conceptualizing the sustainability of human societies and their development” [12]. The transformative effects of accessibility are even more pronounced in the case of transportation studies, where accessibility has played an essential role since at least the 1950s. Over the years, it has grown so as to become one of its main concepts, to the point that many scholars have been rethinking the whole field, because “[accessibility] changes how we think about and measure transport problems and the scope of solutions that are considered for addressing them. As with the Copernican revolution, this shift changes what we consider the system’s centre: traffic-based planning places motor vehicles at the centre, while accessibility-based planning places people at the centre of the transport system” [15].

3 The Shifts Produced by Accessibility

A closer look at how accessibility has made its way into and then evolved in various research fields shows that these fields have been experiencing some fundamental changes: a shift from *particularist accounts* to a *universalist account of access*, a shift from *maker-centred* to *user-centred approaches*, and a shift from *reactive* to *proactive approaches*.

Accessibility usually entered these fields through an initial focus on a specific group, often persons with disabilities. Over time, the focus was progressively widened to include other groups, until finally reaching a universal scope. That is, these fields have moved from various particularist accounts, that frame access as *exclusively* or *mainly* concerning specific groups of people, towards a more universalist (or integrated/holistic) account, where access concerns all human beings. The field of human-computer interaction is a clear example. Over the past few decades, the focus on accessibility within this field has given rise to the subdomain called “universal access in human-computer interaction” (UAHCI) [16]. UAHCI was initially grounded on “approaches to accessibility mainly targeted toward providing access to computer-based applications by users with disabilities” [17]. Over time, it gradually expanded its focus to other groups until embracing a universal vision by acknowledging that “accessibility can no longer be considered as a specific problem of people with disabilities [but of] society at large” [14]. The shift is even more evident in the field of audiovisual translation (AVT), the “branch of translation studies concerned with the transfer of multimodal and multimedial texts into another language and/or culture” [18]. When accessibility first came into this field, scholars started to use the term “media accessibility” (MA) to refer to a very specific subdomain of AVT, that concerned with “subtitling for the deaf and the hard of hearing (SDH) and audio description (AD) for the blind and the visually impaired” [19]. Even though it was at times expanded to include other modalities, like audio subtitling and sign language interpreting, this first particularist account framed MA as both specifically related to persons with sensory disabilities and exclusively limited to a precise set of AVT services and modalities. Over time, scholars shifted towards a second particularist account of MA, according to which MA concerned not only sensory but also linguistic barriers [20, 21]. Recently, scholars have started to advocate for the shift to a universalist account, which defines MA as concerning access to media and non-media objects, services and environments through media solutions, for any person who cannot or would not be able to, either partially or completely, access them in their original form [1, 4, 22]. The universalist definition does not limit MA to any specific group but rather, focuses on the functional processes involved in the interaction between users’ specificities, the particular contexts within which they act or are placed, and the means to address those specificities in such contexts. According to this account, MA comprises three categories: solutions that allow access to media objects, services, and environments; solutions that allow access to media objects, services, and environments through media tools; and solutions that allow access to non-media objects, services, and environments through media instruments.

While the first particularist account frames MA as a sub-area of AVT and the second particularist account makes it overlap with AVT itself, both frame MA as a sub-area of

translation studies. Inversely, by allowing for the inclusion of other groups and access services that would have been otherwise excluded from particularist-based MA, the universalist account favours a convergence of the different conceptions of MA and of MA services developed in other fields. In turn, this positions MA as a broader interdisciplinary area that criss-crosses many fields, including AVT, but that cannot be entirely nor exclusively reduced to any of them because it is a proper subdomain of a new field, which I would refer to as AS. The different positions of MA are exemplified in Fig. 1, which should obviously be considered a mere schematisation of their multi-layered enmeshment.

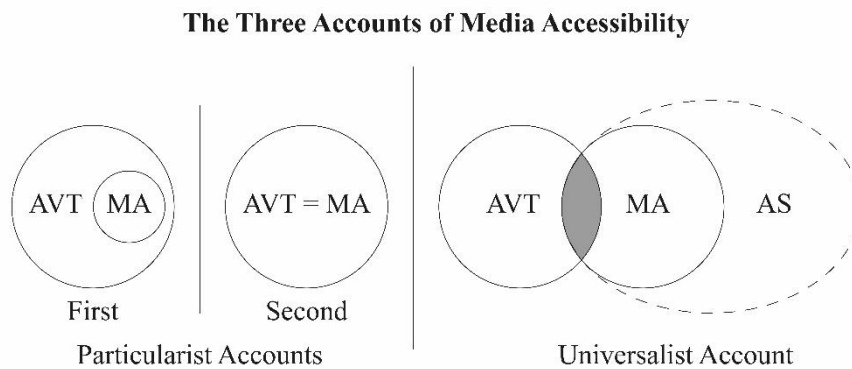


Fig. 1. A simplified schematisation of the three accounts of the area of media accessibility.

The changing tide towards a universalist account of accessibility has been interlaced with a second movement, namely, the increasing attention towards users as bearers of valuable knowledge for the investigation of accessibility processes and phenomena. For years, the dominant attitude was based on the assumption that maker's knowledge is the only one that matters. Whether it be the design of some technology or a theatre performance, artefacts were devised according to the maker's point of view or, in the best case scenario, according to the makers' interpretation of users' needs and capabilities [23]. A major consequence of maker-centred approaches has been a complex series of gaps between the different stakeholders involved. Two of the most prominent are what I have referred to as the *maker-user gap*, a multifaceted gap that can exist between those who make and those who use an artefact, and the *maker-expert-user gap*, which places makers, experts and users at opposite ends of a triangular spectrum of the design process [1, 2, 24, 25]. The need to bridge these gaps has spurred a shift towards inclusive design practices based on user-centred approaches: the knowledge of users, experts and other stakeholders needs to be fully taken into account in the design process because it is as important as maker's knowledge. Evidence of this second shift can be found, for example, in the privileged status that reception studies has achieved in the various fields affected by accessibility.

The recognition that the knowledge of users and experts is as important as the maker's has been posing questions as to how this knowledge should be integrated within the design process, how it should be acquired, and how it should be used. Pursuant to [25-27], the process of artefact design can be broken down into a (series of) *ex-ante*, *in itinere*, and *ex-post* stage(s). For years, access concerns were mainly addressed by adopting reactive approaches. Once produced, artefacts were often modified through *ex-post* solutions, that is, add-ons in order to render them accessible [28]. In other rare cases, accessibility was addressed at *in itinere* stages. *Ex-post* and *in itinere* solutions bear many limitations, for they may produce a “loss in functionality [or] provide limited and low-quality access” [17]. In some cases, addressing access at the *ex-post* or *in itinere* stages is the only possible way. In other cases however, adopting a reactive approach means renouncing accessibility completely, because “it is impossible to ‘glue’ accessibility onto some of the systems as an afterthought or postmanufacture process” [29]. This has led to a shift towards proactive approaches, which entail “a purposeful effort to build access features into a product as early as possible (e.g., from its conception to design and release)” [17]. Moreover, reactive approaches have often led to the late involvement of accessibility experts, drastically decreasing the chances of making an artefact accessible. These issues are well-known problems in many areas, like web accessibility, where “a main factor for the lack of Accessibility at the Web is the major knowledge gap that normally exists between developers and Accessibility specialists [as well as the] common practice to consider Accessibility at the very last stages of the development process, or when applications are already coded” [30]. In order to tackle this problem, researchers and industry have long been devising specific methodologies that place accessibility concerns – as well as involve users and experts – from the early stages of web application development.

4 The Formation of Accessibility Studies

In order for a new field to be born, one strong, yet not necessarily well-defined, “unique, or at least central, concern” must exist first [31]. This central idea then sets in motion a dialectic between endogenous and exogenous forces that may lead to the formation of the new field [32], if exogenous forces prove to be stronger than the endogenous ones, as will be described below. Some of these forces that scholars widely agree upon are: (a) interdisciplinarity, (b) the formation of a research community, and (c) forms of opposition by well-established fields.

When a new problem emerges on the knowledge horizon, if it cannot be tackled using exclusively the tools of a specific field, a common practice among researchers is to join forces and set up a multidisciplinary programme, each drawing on ideas and methods from her own discipline, to then “split apart unchanged when the work is done” [33]. Yet, some issues are so unique or challenging that the mere juxtaposition of different fields and methods is not sufficient. They demand the “integration and synthesis of ideas and methods”, which often leads to the creation of “new hybrid research fields” [33]. Access issues have long proven to demand such an *interdisciplinary* approach, urging researchers from the most diverse fields to not only share their knowledge and

tools but to integrate them and devise new ones in order to successfully overcome such challenges.

The uniqueness of accessibility issues has attracted an increasingly broader range of researchers, who have been hybridising their knowledge and methods in order to address said issues. During this journey they have acquired new profiles that neither fully conform to their original fields nor fit within classical boundaries between fields. Regardless of where they started from, they all end up having more in common amongst themselves than with colleagues from their original fields. The area of MA is once more a clear case. Though it was bred within the field of translation studies, MA problems have attracted scholars from the most vastly divergent fields. Researchers from engineering to tourism studies, from filmmaking to computer science, from psychology to the performing arts, have been joining forces, sharing their own methods and creating new ones in order to tackle MA problems. These partnerships have caused them to gravitate beyond the borders of their original fields, detaching themselves from their original colleagues, and forming *a new community of peers*.

While the formation of a new community around accessibility and its interdisciplinary nature have been acting as exogenous forces, they have been opposed by endogenous forces trying to bar that very process. Seeing as “no discipline willingly abdicates its mandated sovereignty” [34], well-established fields tend to resist the formation of a new field, perceived as either a competitor or a threat to their fiefdoms. They tend to shield themselves behind the walls of their orthodoxy, so that their “response is often only to create new subfields – a seemingly endless proliferation that incorporates members of the emerging community of scholars within the larger enterprise without any debate about the significance of their challenge” [35]. In [1] I have discussed several instantiations of these centripetal forces in relation to MA.

5 Some Misuses and Abuses of Accessibility Studies

In the multifaceted process summarised in the previous sections, accessibility has been acting as a magnet. It slowly began applying its attractive force on many fields, leading to the creation of specific subdomains. It simultaneously pulled both these and their researchers out of the spheres of influence of their original fields and has ultimately brought them together on a new, common ground, namely *accessibility studies*. The reader may refer to Fig. 2 which illustrates this, albeit in a very abstract way. Obviously the relationship between AS and other fields is much more complex, seeing as many fields intersect both among themselves and with AS.

AS is the research field concerned with (a) the critical investigation of accessibility processes and phenomena, and (b) the design, implementation and evaluation of accessibility-based and accessibility-oriented methodologies. For a discussion of the definition of AS and its implications, I refer the reader to [1]. As for the goal of this paper, concerning part (a) of the definition, it is sufficient to recall Bradley’s words on accessibility in digital sustainability: “[access] is not only about the ability to find and retrieve an item, but also the ability to use, view, listen to, interact with, display, or run the digital item in such a way that users can be assured that what they are viewing

satisfies their needs” [36]. Accessibility lies at the heart of a vast gamut of issues, such as acceptability, adaptability, availability, flexibility, personalisation, and usability. Together with many other issues, they are all relevant topics of investigation in AS, as long as some caution is taken, as I will discuss later.

The Formation Process of Accessibility Studies

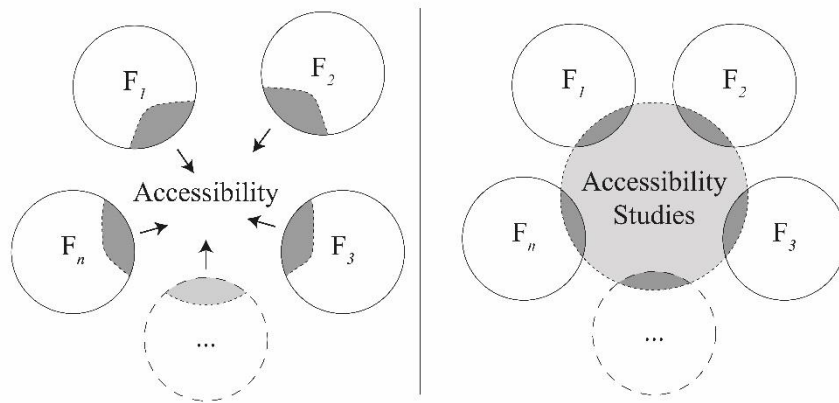


Fig. 2. A simplified schematisation of the formation process of the field of accessibility studies.

AS has been, de facto, a field for some time, and it is now a central topic in scholarly debate. The journey of a new field towards academic emancipation and recognition is seldom linear and smooth, and may carry some physiological confusion. Therefore, a bit of clarification is called for. In the remaining part of this section I will address a few of the possible misinterpretations that may lead to misuses and abuses of AS. The list is neither exhaustive nor conclusive. The ultimate goal of the following paragraphs is to contribute to the metatheoretical analysis of the nature of AS while to preventively clear from the path some obstacles that AS may face along the way. Obstacles that, for example, may take the form of argumentations that accept AS but undermine some of its traits, ultimately aiming to keep it under the control of some other field. This even includes fields that may be willing to undergo intense structural renovations to their “castles” so as to make room for AS and exploit its potentials, while keeping it chained to prevent it from walking away from their kingdom. Once more, I will refer mainly to MA to exemplify my point.

A first source of confusion may be related to the distinctiveness of AS. Some may embrace AS, even warmly, while minimising the importance of clarifying the reciprocal positioning and relationship between AS and other fields. Let us consider a possible case in relation to MA, where some may dismiss the value of the distinction between AVT and MA as merely a question of one’s point of view. Instead of being a weakness, this is actually a decisive reason for the need to address such a distinction. Having clarity around the perspective from which one conducts her analysis is critical to avoid being stuck in a conceptual, epistemological or methodological muddle. Consider an

ancient artefact. A chemist analyses the composition of its materials, a philosopher its aesthetical features. The object being analysed is the same, but the perspectives from which they observe it and the level at which they conduct their analyses differ substantially. In their investigation, the chemist and the philosopher are each guided by a different set of questions, they use different methods, and they elaborate different interpretative models. The chemist may even use the philosopher's results to flesh out some new idea in her own field through metaphorical or analogical thinking. Yet, this does not make the philosopher's statements on the aesthetics of the artefact chemistry statements. Tracing a distinction between MA and AVT does not mean repudiating the role (still being) played by the latter in the development of the former, nor does it mean denying that the two intersect and have much in common. However, they look at the world through different lenses. They are guided by different questions, each of which influence the ways they investigate a problem, the explanations they formulate, and, ultimately, the solutions they devise. As a subfield of translation studies, AVT is concerned with translation, and when it observes the world it frames it in terms of translation problems. As a subdomain of AS, MA is concerned with accessibility, and when it observes the world it frames it in terms of access problems. Obviously, some accessibility problems may be related to translation. Yet, while MA and AVT clearly do intersect: (a) not all translation problems are accessibility problems; and (b) not all accessibility problems are translation problems; therefore (c) not all MA problems are AVT problems and vice versa (see Fig. 1). The fact that MA and AVT intersect and may borrow from each other does not make the need for a distinction a mere fanciful exercise. Mechanical engineering models are used in medicine to gain insight into some mechanisms of the human body and biology. This does not weaken the distinction between medicine and mechanical engineering nor does it make the former a subfield of the latter. As a subdomain of AS, access concerns are ultimately central in MA. Clearly distinguishing between MA (and AS too) and other fields is eventually critical for how one addresses and responds to those concerns. Otherwise, one may run the risk of curing a cold with a hammer. Precisely for these reasons a second possible claim one may advance, i.e. that AVT has become a subdomain of MA, should be discarded as well. Once more, while all problems of MA are accessibility problems, not all problems of AVT are accessibility problems. Which means that, as shown in the third image of Fig. 1, MA is indeed a proper subset of AS (that is, all elements of the MA set are elements of the AS set), while AVT simply intersects with MA (as well as with AS).

The distinctiveness of AS may also give rise to a second form of confusion, that is, the interpretation of AS as either a mere extension or evolution of some other field. This claim usually plays a *hypernym game* with the concepts involved. For example, one can use the concept of translation to talk about design, saying that designing a house is the process of translating the requests of a client into a blueprint and then into a physical building. This formulation plays on the polysemic trait of the words "translation" and "design". While it could be a catchy metaphor or analogy, perhaps useful in inspiring some insights into how the process of design works, accepting it literally would mean classifying design as a hyponym of translation, and thus a *hypernym trap* that leads to conclude that the field of design is a subfield of translation studies. Similarly, claiming that "accessibility is a form of translation and translation is a form of

accessibility” [37, see also 38] has a deep heuristic value that, for example, can help us grasp the connection between translation and accessibility at some levels as well as the role they play in addressing and solving social issues. However, it should not be interpreted literally; otherwise it would fall into the hypernym trap. Thus, considering AS as a mere extension or subdomain of some other field, say translation studies, begets the very same controversial conclusion. Ultimately, the hypernym game would engender a field so generic and overpopulated to the point it would become useless.

A third source of confusion may be due to the misinterpretation of AS as a theory instead as a field. AS is not a specific theory of accessibility developed within some fields or subfields, but a field of its own. As such, AS does not aim to provide a unified theory of accessibility but rather, to stimulate the formulation of and, in addition, host many theories of accessibility. Theories that investigate, assess and explain problems, processes and phenomena through the lens of accessibility, while addressing the associated theoretical and the social issues. For example, a theory that rejects the value of users’ knowledge in the production of access services has full citizenship in AS. It would probably come into conflict with other theories hosted within AS, but this is part of the healthy internal dialectic of any field.

6 Conclusion: Accessibility and Poietic Design

As mentioned above, AS can be defined as the research field concerned with (a) the critical investigation of accessibility processes and phenomena, and (b) the design, implementation and evaluation of accessibility-based and accessibility-oriented methodologies. In previous works as well as in the pages above, I have focused on (a). In these concluding paragraphs I will briefly examine (b). AS is mature enough to both host a family of theories regarding accessibility-related issues as well as to be organised into subfields, such as *access ethics*, the subfield of AS that investigates the ethical issues raised by accessibility in relation to human life and society. In the course of its emergence, through the enmeshment of the areas that have come together to form it, AS has borrowed specific methodological approaches, and then mixed and restructured them to create its own methods, each concerned with different aspects involved in accessibility. One of these is what I shall refer to as *poietic design* (PD), where “design” should be intended in the most general sense, from policies to software. PD stems from and complies with the inner features of accessibility and applies them to the process of design. The long path that has led to the emergence of AS and the revolution experienced by the different fields have clearly demonstrated the *poietic* trait of accessibility. The focus on users put forward by accessibility, for example, does not imply a secondary role of the makers. On the contrary, it shows that the design process is a co-construction where makers and users, as well as other agents, must work together. Each plays a role that cannot be ignored. Accessibility calls for the responsibility we have both collectively and individually as co-creators and agents. As a method, PD consists of a series of principles:

1. The *Principle of Universality*: accessibility concerns all, not exclusively specific groups or individuals.

2. The *Principle of Personalisation*: one size does not fit all. The design should be able to respond to the specificities of individual users.
3. The *Principle of User-centrality*¹: design should focus on users and their specificities.
4. The *Principle of Epistemic Inclusivity*: users and other stakeholders, including experts, are bearers of valuable knowledge for the design of artefacts.
5. The *Principle of Participation*: design should be carried out through the active participation of the stakeholders involved.
6. The *Principle of Proactivism*: accessibility should be addressed ex-ante, not ex-post.

The list above should not be considered exhaustive. It merely sketches some of the overarching principles of PD. Others may be added which refer to additional fundamental aspects of accessible design, such as usability and expertise. While I leave a more detailed account of PD, its principles and ethical implications to future work, a few words about the Principle of Personalisation may help to clarify the general point. This principle tells us that universalism should not lead to the annihilation of users' differences and limitation of their freedom. "Design for All" (or Universal Design) identifies the horizon within which the design process should take place: "all" (universalism) means that design has to (potentially) address all users, but not treat them as a homogeneous group of indistinguishable persons. Personalisation means "design for one", that is, we need to design artefacts that can respond to the specificities of each individual. It is design that guarantees individual's choice and makes the adaptation and customisation to her needs, to the environments within which she acts, as well as other factors, possible.

PD is both prescriptive and a descriptive, backward- and forward-looking. It defines the conditions necessary to design an accessible artefact or to make an artefact accessible, in addition to offering an analytic tool for the diagnosis of problems and the devising of strategies of intervention. The poietic trait of accessibility does not simply provide a conceptual tool for the design process, as seized by PD; it also shows the vast potential impact inherent in AS, for example through reframing and successfully tackling old problems. A clear case is the social model of disability. While this model has represented a stepping stone away from the medical model, for years now disability studies scholars have been highlighting its limitations and suggesting the need to move forward, beyond the social model of disability. Yet, this has proven to be very difficult from a disability studies perspective. On the other hand, as I argued in [3, 24, 39], once the problem is framed from its novel perspective, AS allows us to move from a social model of disability to an *atomic model of accessibility* (or *social model of accessibility*), where disability is but an instantiation of a general process of deterioration or negation of the equal status of human beings as imposed by society to anyone who faces barriers to access.

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References

1. Greco, G.M.: The Nature of Accessibility Studies. *Journal of Audiovisual Translation* 1, 205-232 (2018)
2. Greco, G.M.: The Need for Accessibility Studies. Paper presented at the conference *The Future of Media Accessibility: Issues and Visions*, Lecce, Italy (2017)
3. Greco, G.M.: L'accessibilità culturale come strumento per i diritti umani di tutti. In: Ceterelli, G., Guido, M.R. (eds.) *Il patrimonio culturale per tutti. Fruibilità, riconoscibilità, accessibilità*, pp. 94-102. Direzione Generale Musei, Ministero dei Beni e delle Attività Culturali e del Turismo, Roma (2017)
4. Greco, G.M.: On Accessibility as a Human Right, with an Application to Media Accessibility. In: Matamala, A., Orero, P. (eds.) *Researching Audio Description. New Approaches*, pp. 11-33. Palgrave Macmillan, London (2016)
5. Lakoff, G.: *Whose freedom? The battle over America's most important idea*. Farrar, Straus and Giroux, New York (2006)
6. Francioni, F.: The Rights of Access to Justice under Customary International Law. In: Francioni, F. (ed.) *Access to Justice as a Human Right*, pp. 1-55. Oxford University Press, Oxford (2007)
7. Dutton, W.H.: *Social Transformation in an Information Society: Rethinking Access to You and the World*. UNESCO, Paris (2004)
8. Rifkin, J.: *The Age of Access. How the Shift from Ownership to Access is Transforming Modern Life*. Penguin, London (2001)
9. Buhalis, D., Darcy, S.: Introduction: From Disabled Tourists to Accessible Tourism. In: Buhalis, D., Darcy, S. (eds.) *Accessible Tourism: Concepts and Issues*, pp. 1-20. Channel View Publications, Bristol, UK (2011)
10. Janelle, D.G., Hodge, D.C. (eds.): *Information, Place and Cyberspace: Issues in Accessibility*. Springer, New York (2000)
11. Levine, J., Grengs, J., Merlin, L.: *The Accessibility Shift: Transforming Transportation and Land-Use Planning*. Cornell University Press, Ithaca, NY (forthcoming 2019)
12. Prodan, A.C.: The Sustainability of Digital Documentary Heritage. In: Albert, M.-T., Bandarin, F., Roders, A.P. (eds.) *Going Beyond: Perceptions of Sustainability in Heritage Studies*. No. 2, pp. 59-69. Springer, New York (2017)
13. Pullin, G.: *Design meets Disability*. The MIT Press, Cambridge, MA (2009)
14. Stephanidis, C., Emiliani, P.L.: Connecting to the Information Society: a European perspective. *Technology and Disability* 10, 21-44 (1999)

15. Litman, T.: Evaluating Accessibility for Transportation Planning: Measuring People's Ability to Reach Desired Goods and Activities. Victoria Transport Policy Institute, Victoria, Canada (2007)
16. Stephanidis, C. (ed.): The Universal Access Handbook. CRC Press, Boca Raton, FL (2009)
17. Emiliani, P.L.: Perspectives on Accessibility: From Assistive Technologies to Universal Access and Design for All. In: Stephanidis, C. (ed.) The Universal Access Handbook, pp. 2.1-2.18. CRC Press, Boca Raton, FL (2009)
18. Pérez-González, L.: Audiovisual Translation. In: Baker, M., Saldanha, G. (eds.) Routledge Encyclopedia of Translation Studies, pp. 13-20. Routledge, London; New York (2008)
19. Orero, P.: Audiovisual Translation: A New Dynamic Umbrella. In: Orero, P. (ed.) Topics in Audiovisual Translation, pp. VII-XIII. Benjamins, Amsterdam (2004)
20. Díaz Cintas, J.: Audiovisual Translation Today. A Question of Accessibility for All. Translating Today 3-5 (2005)
21. Orero, P., Matamala, A.: Accessible Opera: Overcoming Linguistic and Sensorial Barriers. Perspectives: Studies in Translatology 15, 262-277 (2007)
22. Greco, G.M.: Towards a Pedagogy of Accessibility. Epistemological and Methodological Issues in Media Accessibility Education and Training. *Linguistica Antverpiensia* 19, (forthcoming)
23. Norman, D.A.: The Design of Everyday Things. Basic Books, New York (2013)
24. Greco, G.M.: The Normative Dimension of Cultural Accessibility. Paper presented at the First Italian Workshop on Cultural Accessibility, Lecce, Italy (2013)
25. Greco, G.M.: Come e perché organizzare un evento culturale accessibile: Dalla teoria alla pratica. Paper presented at the conference ArtLab13, Lecce, Italy (2013)
26. Greco, G.M., Pedone, L.: Accessibilità e sicurezza dei luoghi di spettacolo. Note su criteri impositivi, criteri prescrittivi e buone prassi. AGM, Lecce (2015)
27. Greco, G.M., Pedone, L., Monsellato, E., Rizzo, B., Spinelli, E.: Guida per eventi accessibili ed ecosostenibili. Social Sound-Puglia Sounds, Regione Puglia, Lecce (2012)
28. Adams, R.: User Modeling: A Universal Access Perspective. In: Stephanidis, C. (ed.) The Universal Access Handbook, pp. 24.21-24.19. CRC Press, Boca Raton, FL (2009)
29. Vanderheiden, G.C.: Universal Design and Assistive Technology in Communication and Information Technologies: Alternatives or Complements? *Assistive Technology: The Official Journal of RESNA* 10, 29-36 (1998)
30. Martín, A., Cechich, A., Rossi, G.: Accessibility at Early Stages: Insights from the Designer Perspective. Paper presented at the W4A2011 – Submission Type Technical (2011)
31. Pietig, J.: Is Education a Discipline? *The Educational Forum* 48, 365-372 (1984)
32. Farjoun, M.: The Dialectics of Institutional Development in Emerging and Turbulent Fields. *The Academy of Management Journal* 45, 848-874 (2002)
33. Committee on Facilitating Interdisciplinary Research, National Academy of Sciences, National Academy of Engineering, Institute of Medicine: Facilitating interdisciplinary research. The National Academies Press, Washington, D.C (2005)
34. Klein, J.T.: The Rhetoric of Interdisciplinarity. Boundary Work in the Construction of New Knowledge. In: Lunsford, A.A., Wilson, K.H., Eberly, R.A. (eds.) The SAGE handbook of rhetorical studies, pp. 265-283. SAGE, Thousand Oaks, CA (2009)
35. Salter, L., Hearn, A.M.V.: Outside the lines. Issues in interdisciplinary research. McGill-Queen's University Press, Montreal (1996)
36. Bradley, K.: Defining Digital Sustainability. *Library Trends* 56, 148-163 (2007)
37. Díaz Cintas, J., Orero, P., Remael, A.: Media for all: a global challenge. In: Díaz Cintas, J., Orero, P., Aline (eds.) *Media for All*, pp. 11-20. Rodopi, Amsterdam (2007)

38. Remael, A.: Media Accessibility. In: Gambier, Y., van Doorslaer, L. (eds.) *Handbook of Translation Studies*, vol. 3, pp. 95-101. John Benjamins, Amsterdam/Philadelphia (2012)
39. Greco, G.M.: Accessibility, Human Rights, and the Ghetto Effect. Paper presented at the conference *Wounded Places. On the Integrity of the Body*, Beirut, Lebanon (2016)