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Participatory Design and Critical Media Studies: A Convivial Conversation

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Abstract. In the age of platform society, Critical Media Studies are faced with the challenge of developing not only theoretical proposals capable of critically addressing the power exerted on society by GAFAM-owned digital platforms, but also of envisioning a praxis capable of changing the political economy of this corporate-driven digital media ecosystem. To do this, we believe that Participatory Design and Critical Media Studies should dialogue when it comes to theoretical frameworks and intervention practices. In this paper we propose to start this dialogue building upon the work of Ivan Illich, especially his book *Tools for Conviviality*. We find that in order to imagine a possible digital media design process able to avoid the creation of radical monopolies, it is necessary to adopt a Convivial Participatory Design approach where issues related to scale, people needs and power inequalities are considered by designers in collaboration with the users.

Keywords: Conviviality, Participatory Design, Media Studies, Platform, Commons

1 Introduction: The challenge of platform-mediated sociality and the need for a ‘convivial’ praxis.

The spread of SARS-COV-2 has highlighted more than ever the societal need to revise existing practices in all domains of life. For media scholars and professionals this has meant, for example, to question the use of technologies of contact tracing or the widespread circulation of partial, often incorrect, information on the available scientific knowledge on the virus and the related disease, COVID-19.

Digital platforms and digital tools, although not directly related to the emergence of SARS-COV-2, have nevertheless become central to the organized societal response to the threat brought by the virus. The critical issues emerged in connection to contemporary platforms have, in our understanding, strengthened the perspectives that have questioned the design and development of digital platforms by big corporations following a capitalist logic. For example, the European route to contact-tracing apps has been signed by an extreme attention to personal data protection, something in

contrast with the imperative to collect data that characterizes platform capitalism [1], platform society [2] and the platformization of culture [3].

In this context, critically engaged scholars are faced with the challenge of developing not only theoretical proposals capable of critically addressing the power exerted on society by GAFAM¹-owned digital platforms, but also of envisioning a *praxis* capable of changing the political economy of this corporate-driven digital media ecosystem offering new perspectives to overcome these structural problems. The theoretical tools of Critical Media Studies, for example, could be put at work in the design of alternative, non-proprietary, open technological infrastructures that treat personal data as a commons and not as a commodity. To do this, Critical Media Studies can enter a dialogue with the theoretical frameworks and practices coming from Participatory Design, an approach that has stressed the importance of involving future users and their needs in the definition of the technology they use to interact with their environments [4]. The attention for the sharing of power, tacit knowledge and mutual learning processes between experts and users are the pillars of Participatory Design. In addition, this approach seeks to blur the barriers between specialists - the designers – and the users, making the technologies more convivial - while recent contributions have engaged with designing for and within the commons [5].

In this paper we propose to start this dialogue building upon the work of Ivan Illich, especially his book *Tools for Conviviality* [6]. Since its publication, *Tools for Conviviality* has influenced many media scholars all over the world, especially those coming from cultural studies and the political economy of media [7]. The popularity of *Tools for Conviviality* waned during the 1980s and 1990s, but with the Web 2.0 evolution of the Internet, Illich's ideas slowly came back in style and, as we will show, they have been recurrently resurfacing among critical media scholars, pointing to the continuous importance of Illich's work in supporting the understanding of contemporary media. In particular, Illich's language on conviviality has been used to frame both social media and their critiques. This ambivalence can be solved moving from the analysis of current media to the praxis of media-making, which is their design.

To do that, we suggest a dialogue between scholars in Critical Media and in Participatory Design. Our contribution is to create a shared set of concepts and framework for analyzing platforms and highlighting how different design processes influence different types, with varying levels of transparency, of values and prescriptions contained within them. Accordingly, beginning with Illich's reflections on the concept of conviviality and with the commons as a way of understanding digital media, we indicate which dynamics to consider most when designing a platform in order to build potential alternatives to platform capitalism, alternatives based on satisfying people's needs and nurturing their relations. We are convinced that this dialogue, fostered by the common ground of conviviality, can offer new perspectives for tackling the structural inequalities hidden in the folds of complex systems such as today's digital platforms, offering a leading role to those “implicated actors” [8] affected by these technologies but silenced by those with greater power in the process.

¹ GAFAM is an acronym that refers to the most dominant companies in the information technology industry, and specifically: Alphabet (Google), Amazon, Apple, Meta (Facebook), and Microsoft.

In addition, this convivial dialogue can provide theoretical tools useful to both fields and, more importantly, strengthen the interdisciplinary space for communal practices while analyzing and designing "convivial" technologies (platforms, algorithms, "convivial" data) able to contribute to the envisioning of an alternative political economy of the platform society.

2 Ivan Illich on conviviality and commons

Ivan Illich's intellectual work focused mainly on the criticism of the major institutions of the industrialized worlds. From the '70s, in particular, he started to develop his thoughts around the concept of "counterproductivity" [9], the idea that the overdeveloped institutionalization of the humans' artifacts, both material things and services, brings to a point where the harms for the individual and society are more than the benefits. He underlined how the specialization of tasks, the institutionalization of values and the centralization of power, in different areas such as the compulsory education system, modern medicine, economic development, energy, and transportation, made humans more and more dependent on machines, bureaucracy, and standard artifacts in general [6].

In his book *Tools for Conviviality* [6], Illich describes how these dynamics are evident also in the field of technological development and industrial production, where people are becoming more and more dependent on the tools they produce: tools are not anymore at the service of humans but vice-versa. With the term tool, Illich means "all rationally designed devices, be they artifacts or rules, codes or operators" ([6] p. 34). For the philosopher, industrial production is the cause of the creation of a dependency impossible to satisfy, a "radical monopoly" by one kind of product over the satisfaction of needs. This concept describes not only the presence of an economic monopoly, but also how the ubiquity of an industrial tool disciplines people to satisfy their needs just recurring to that industrial commodity or a new one [7, 10]. An example is how the design of automobiles and big roads have limited the individual's possibility to travel with other means. The actors that try to resort to alternative solutions have to face social pressure and legal restrictions [7].

The creation of a radical monopoly forces people to depend on industrial commodities and services, depriving them of the possibility to create their own artifacts and to share them in ways that are different from the market [11]. Illich describes "conviviality" in opposition to this process, as interactions among humans and between humans and their environment defined as "autonomous" and "creative", and not the result of constrictions posed by others or by objects produced by other people ([6] p. 24). This concept stresses, at the same time, the need of the individual to express its potential, and how this is possible only through the relationship between people. In these dynamics, tools are fundamental, since they are the devices that allow the interactions among humans and between them and their environments. Only if an individual can master a tool, he/she can invest the world with his/her meanings. On the opposite, a dependency from the tool means that the shape of the tool will determine the self-image of the individual and his/her relationships. Using Illich's words: "Convivial tools are those which give each person who uses them the greatest

opportunity to enrich the environment with the fruit of his or her own vision. Industrial tools deny this possibility to those who use them and they allow their designers to determine the meaning and expectations of others. Most tools today cannot be used in a convivial fashion” ([6] p. 34).

To better understand when a tool can be defined as convivial, we isolate some criteria that group together the various Illich’s definitions: convivial tools support the creativity of individuals; they avoid power differences through proper sharing; they nurture relations between communities. The first criterion is present when, through the design, manipulation, adaptation, and use of tools, people can express their imagination, creativity, needs, desires, and tastes. Power inequalities can be avoided when tools are freely accessible by the people, and not only kept under the control of specialists. Finally, the convivial tool can nurture relational assets among the communities through the promotion of communication and interdependence between people. Illich uses the telephone as an example of a convivial tool: everybody can use it to say what he or she wants to whom he/she wants; at the same time, there is no possibility for the tool itself or for a central power to drive and monopolize the conversation.

It must be stressed that Illich does not want institutions, technology, and specializations to be abolished: he wants to find a balance between the industrial production and the possibility for humans to pursue different and competing modes of production that can support their realization, autonomy and the creation of community relations [7, 11]. Within this framework, Illich offered controversial opinions about the Information and Communication Technologies that were starting to come on the scene. On one side, he dreamed about the creation of a network of peers that could use computers to identify people with similar interests, as well as creating a network of tape recorders. This would allow students to listen to contents, create their own, and then share them with others [11–13].

On the other side, Illich was concerned that these technologies are not neutral, and they can push people to become dependent on them when communicating and thinking [9, 11]. He underlined that the effects computers can have on communication could be the same that fences had on pastures and cars on the streets: transforming a commons into a resource used for economic production that creates power disparities. He described how the introduction of a tool as the first loudspeaker had the effect of giving voice just to those who had access to it, creating power inequalities in the management of a commons as the silence. Against this backdrop, he described how the “new electronic devices” potentially could have the same effect on people’s communication, since they “have the power to force people to ‘communicate’ with them and with each other on the terms of the machine. Whatever structurally does not fit the logic of machines is effectively filtered from a culture dominated by their use” [14]. Illich calls for resistance to this transformation, because once the commons are transformed into resources, they will be defended by the “police”, and their recovery will be much more difficult. Illich is proposing “to practice a more disciplined and limited use of technology, and to invent alternative, especially low-scale, technologies” ([9] p. 27).

It is evident how these reflections are more than actual in the era of platform society: in the next section, we will show how media studies have rediscovered Illich, to later move to discuss how Participatory Design has put substantial effort in working in ways close to conviviality.

3 Ivan Illich's influence on media scholars

Looking at Illich's insights from the point of view of media and communication studies, we see how the philosopher has been debated and re-discovered since the '80s, when Pauly proposed a review of Illich's work to show to his colleagues in communication studies how "his concerns have long paralleled our own" ([7] p. 259).

Since its publication in 1973, *Tools for Conviviality* has influenced many media scholars all over the world, especially those coming from cultural studies and the political economy of the media industry [7]. Aided by his frequent visits to Berkeley, Illich's work has inspired many thinkers outside academia, including pioneers of the Internet and digital media, such as Stewart Brand and Lee Felsenstein. Editor of the famous Whole Earth Catalog, and founder of the WELL, one of the world's first virtual communities, Brand was one of the most famous characters of the 1970s California counter-cultural scene that contributed to the rise of cyberculture [15]. In 1974, he founded the magazine *CoEvolution Quarterly*, where he also published articles by Illich, including "Silence is a Commons" [14]. *Tools for Conviviality* also influenced another founding figure of Californian cyberculture: the former Stanford student Lee Felsenstein, one of the first members of the Homebrew Computer Club founded in 1974, and designer of the Osborne 1, the first mass-produced laptop computer. Lee Felsenstein's familiarity with Illich's *Convivial Tools* is also mentioned in *Hackers: Heroes of the Computer Revolution* [16]. Illich may not have loved computers, but Felsenstein claimed in an interview that he, as a computer designer, "pursued through all his life Ivan Illich's ideal of 'conviviality', insisting that technology attains its highest purpose only when it becomes understandable, approachable, repairable and usable by ordinary people" ([17] p. 2). Felsenstein added that the first Homebrew meeting in 1974 was organized thanks to a "convivial" personal computer designed following the principles of convivial technology [17].

The popularity of *Tools for Conviviality* waned during the 1980s and 1990s, but with the Web 2.0 evolution of the Internet, Illich's ideas slowly made a comeback. For some, Web 2.0 and social media seemed to envisage the advent of more convivial technologies [e.g. 13, 22]. In any case, Illich was once again being cited by scholars, many of whom came from Critical Media Studies. As noted by Nowicka & Vertovec, "the authors concerned with media ecology, participatory media or complex systems of modern communication technologies often relate to Illich when considering the workings of such systems on human interactions, structures of collectivity or the rise of civil society" ([18] p. 343). Although interest in Illich among media scholars has grown, in the most relevant media and communication international journals according to Scimago, from 2000 to 2022, we can see that Illich received marginal but constant attention over time. Among the authors who have helped to revive his thinking in media studies there are many relevant and popular ones, especially in the Critical Media Studies field. These include Mattelart [19]; Burgess [20], who understood the connection between convivial tools and the hacking ethos; Leadbeater [21]; Gauntlett [13, 22], who passionately advocated a convivial engagement in making and producing media objects; Lankshear & Knobel [23]; Sterne [24, 25]; Ippolita [26]; Deuze [27, 28]; Nowicka and Vertovec [18]; Söderberg [29]; Bonini et al. [30]; Bonini & Mazzoli [31]; but also world-renowned designers such as Thackara [32] and Norman [33].

David Gauntlett [13] provided a strong contribution on the need for media studies to reconsider Illich's work in the light of the rise of new digital cultures. Conviviality, as Gauntlett noted, "is about having the power to shape one's own world. Illich makes it clear that individuals *must* retain this power – society must not seek to drain it from them" ([13] p. 168, emphasis in original). Gauntlett [13] used Illich to describe the dynamics related to digital technologies and new forms of creativity. For instance, this author uses the philosopher's dualism between centralization and specialization on one side, and equal access, power and freedom on the other, to enter the debate about the impact of the World Wide Web on people's agency. On the one hand, Gauntlett says, this technology can centralize power and reduce the creativity of people; on the other, it can be used to increase people's knowledge and the strengthening of connections.

It should be noted how recent analysis [e.g., 34, 35] have clarified how contemporary social media platforms, for example, thrive promising increased knowledge and networking and then adjust their technologies to turn their users into audience/commodities. That suggests that the ambivalence highlighted by Illich and later by Gauntlett lose ambiguity, into a capitalist economy, in favor of the centralization of power and the construction of monopolies. That has been confirmed also by Ameripour and colleagues [36] who measured the conviviality of the Internet in relation to Internet-based campaigns in Iran. They stressed how, in practice, a central power can always affect the use of digital technologies as tools. We argue that, to overcome this ill-fated future of digital societies, the critical capacities of media scholarship can, and probably should, engage in collaborative practices with the ones designing the technologies themselves.

In this section we have shown how, almost fifty years after the publication of *Tools for Conviviality*, the interest in Illich's work among media scholars has not diminished and, cyclically, reappears on the surface, continuing to influence new generations of critical media scholars. Instead, in the next section we will illustrate how Illich's thinking is reflected in the practices of Participatory Design. Subsequently, we will show how Illich's reflections on the concept of conviviality and the importance of the commons represent an interesting intersection between Critical Media Studies and Participatory Design and could provide a common framework within which the two communities of scholars could engage in a dialogue.

4 Participatory Design: conviviality and commoning in practice

In this section, we connect to a tradition of technological design and development inspired by principles that aligns with Illich's conceptualization, the tradition of Participatory Design, now known also as co-design.

This tradition originates from seminal work done in Scandinavia in the '70s, with a prominent role of Kristen Nygaard - one of the co-inventors of object-oriented programming and a trade union activist. Nygaard, and the people working with him on the initial projects all over Scandinavia, looked at technology design within a lens of industrial democracy, working to build "skill-enhancing tools for skilled workers" ([37] p. 395). The approach is complementary to Illich's one, according to Pelle Ehn, one of the key figures in Participatory Design. At the general level, the potential convergence

between Participatory Design and Illich's work lies in the idea, in Participatory Design, of designing technologies operating on the terms of their users (workers in the seminal projects), and not the other way around, with the subordination of people to the tools they use (and recent research has shown how the patents deposited by big corporations as Amazons go in the direction of an increased subordination of people to machines, e.g. Delfanti and Frey [38]).

This opens up a set of questions that can constitute the first contribution of Participatory Design toward the construction of convivial technologies, the "how to?" questions. In fact, Participatory Design stresses what we can call *conviviality* in Illich terms not only on the result, the product of the design activities, but in the method. The process of design itself is characterized by mutual learning between people with design skills and people with experience and skills on the domain in which the design intervenes. Although not extremely articulated in Illich terms, the necessity of becoming more convivial in the design process has been stressed by scholars, even developing a "Convivial Toolbox" [39]. To stick to an example of radio technologies that we will describe more in detail below in the Discussion, participatory projects like Grassroots Radio have clarified how the set-up of community radio stations pushes toward inquiries on the social conditions of the communities involved and that the peculiarities of the tools, the technologies supporting the radio stations, become a problem subordinate to the social relations taking place in the specific localities [40–43]. Questioning power differences is a key starting point for Participatory Design, and it aligns it to Illich perspective, as well as it enriches the latter, showing the specific politics of designing and adopting specific tools, including their political economy and institutional aspects [e.g., 44–46]. Participatory Design as a field is indeed constantly questioning the power dynamics of system design, leading to the need for political reflexivity about how the processes of participation involved can create the conditions for situations of old and new exclusions [63–67].

Another point of Illich is the focus on convivial tools as capable to strengthen the relationship within the communities and between the communities and their environments. On this side, Participatory Design has underlined the importance of nourishing the common, defined, following Hardt and Negri [47], "as the ensemble of the material and symbolic resources tying together human beings" ([48] p. 2). Designing innovative technologies for/with communities, several authors [e.g., 49] showed the importance to consider not only the final object (the thing), but also the networks of materiality and social relations that are connected with the people's matters of concern and controversies. In this way, Participatory Design broadens its influence also to the formation of publics [50] concerned with these issues, and it displays an awareness of the multiplicity of conflicting perspectives that surround the design and appropriation of technologies. In fact, practitioners of Participatory Design aim at providing people with the socio-technical resources that allow adoption and appropriation processes that can be different from the initial scope of the design [50]. That activity is often described as *infrastructuring*, that means the process of making visible existing infrastructures while aiming at transforming them, or even creating new ones [49]. The analysis of *infrastructuring* is, in Participatory Design, showing how media technologies can be rethought not only at the theoretical level but connecting the analysis of societal phenomena to the nitty-gritty of producing tools.

Moreover, similarly to what Illich was suggesting, scholars in Participatory Design are also working on defending the commons from the radical monopoly represented by platform society and capitalism [44]. Different authors [1, 2, 51] described how the main platforms like Facebook, Google, Uber, are disciplining social relations and economic life, commodifying private information and affective and interpersonal relations. Teli and colleagues [52] showed the need to tackle these problems through practices of “institutioning the common”, allowing the Participatory Design process to deal with the institutional framework in order to strengthen the connections among human beings. At the same time, Light and Miskelly [53] stressed how in platform capitalism the concept of sharing is connected with an idea of scaling based on the maximization of profit. In order to provide the local community with some agency on the digital platforms, they proposed to replace the idea of scaling with the one of meshing. Scaling aims at the maximization of profit and it pursues the goal of creating what Illich called “radical monopolies” [6], meshing supports the empowerment of local realities fostering the relational assets between people [53]. To put it simple, scaling is based on the industrial production model, meshing on conviviality.

As shown, although rarely mentioning Illich, scholarship in Participatory Design has engaged in the construction of convivial tools and convivial methods to design tools, reaching out from the daily practices of designing to the wider institutional and political economic framing. For this reason, we are convinced that the situated attention Participatory Design gives to the design process and to design choices can fruitfully dialogue with the analytical angle provided by Critical Media Studies, opening up a space for a more convivial future.

5 Discussion: theory and practices of designing convivial technologies.

In this paper, we proposed a dialogue between scholars in critical media and in Participatory Design based on Illich’s reflections on the concept of conviviality and the importance of the commons. This reflection can be considered as a starting point in understanding digital media and to build potential alternatives to platform capitalism, based on satisfying people’s needs and nurturing their relational assets.

5.1 Illich, Critical Media Studies and Participatory Design: a common framework

In the light of what we presented above and we summarize in Table 1, we can affirm that media and communication studies have debated and re-discovered Illich’s concepts of conviviality, and his interest in the commons, since the ‘80s, to describe the request for independence and a hacking ethos in the development of new media. At the same time, we described how the tradition of Participatory Design is inspired by principles that align with Illich’s conceptualization, as the importance in design of fostering democratic processes and mutual learning, trying to make not only the object but also the process convivial.

We have then isolated three elements defining a convivial tool and showed their presence in both academic and professional fields. First, convivial tools support individual self-expression. This feature is evident in the Participatory Design's focus on the users' needs and the attention of Media and Communication Studies for forms of "creative conviviality" as described in Section 3, for instance, when introducing Gauntlett's attention for the role of technology in old and new forms of creativity and the contemporary debate about the impact of the world wide web on non-professionals' agency [13].

Table 1 Illich's main concepts and their presence in Participatory Design and Media and Communication studies

Illich main issues	Description	Similar issues in Participatory Design	Similar issues in Media & Comm.
<i>Conviviality</i>	Opposed to industrial productivity; importance of relationships values and meanings.	Design as democratic process; mutual learning; constitution of publics; nourishing the common. (Conv. not only in the objects but also in the method).	Request for convivial/social media (media independence, hacking ethos).
<i>Commons</i>	In opposition to industrial resources. Equality in the access/use of the environment.	Digital commons as an alternative to platform society/capitalism.	Collective appropriation of media platforms.
<i>Convivial Tools: Self-expression</i>	Through the design, adaptation and use of tools, people express their creativity, needs, etc.	Focus on the users' needs.	Self-expression in media, "creative conviviality" (from media as a message to media as a practice).
<i>Convivial Tools: Power dimension</i>	Convivial tools avoid the specialist/user dimension; people use tools, they are not used by them.	Users and designers' mutual learning; Infrastructuring; empowering local communities.	Power centralization VS more information and connections
<i>Convivial Tools: Relational assets</i>	Importance of community.	Attention to the socio-technical dimensions. Nurturing the common.	Media as facilitators of connections.
<i>Radical Monopoly</i>	Ubiquity of industrial tools that disciplines people's behaviors and limit the possibility of agency.	Platform society, platform capitalism.	Digital media platforms.

Second, the power dimensions related to accessibility and appropriation of the tools are an essential sector in the studies of media, in particular, those connected with the

Internet. At the same time, one of Participatory Design's primary goals is to avoid power inequalities between users and designers of the technologies and to foster democratic processes.

Third, the importance for Participatory Design to not focus only on the final object but also on the concerned social and political dynamics is an example of its attention for the relational assets. Media and Communication Studies express this attention through the analysis of the role of media in the development of connections between people. Finally, both the approaches share a particular interest for the transformations in society and in the economic system correlated to the pervasiveness of new digital media platforms, with the presence of radical monopolies that affect people's freedom and agency. The researchers of both disciplines often agree on the need for a more significant users' appropriation of digital platforms, also recurring to the use of commons-based models, as Illich suggested too.

5.2 Developing theoretical tools to identify the conviviality of technologies

With this backdrop, we can say that in order to offer theoretical tools that can support the design of "convivial" technologies to contribute to the envisioning of an alternative political economy of the platform society there are two main dimensions that need to be considered: how the media platforms configure the dynamics of power between the actors involved (owners, users, etc.), and if the design mindset [39, 54, 55] is expert-based or participatory (Figure 1).

In relation to the issue of power management and social relationships, on the one hand we have media whose philosophy is related to "connectedness" [34], a culture devoted to the sociality and creativity of humans through the attention for the *meshing* of relational assets and the empowerment of local contexts. On the other hand, we have "connectivity" [34], that is related to scale these interconnections between users at a global level, often with the goal of centralizing their control and making the related data profitable for few actors. Van Dijck describes this as "ways to code information into algorithms that helped brand a particular form of online sociality and make it profitable in online markets serving a global market of social networking and user-generated content" ([34] p. 4).

At the same time, if the design process is expert based, it uses its "enfolded capacities" [56] to inscribe in the platform particular programs, values and rules that discipline users' behaviors through the media. On the other hand, when the design process is participatory, values and rules become evident and there is the possibility to switch from prescriptive mechanisms to the proposition of new and different points of views [56].

Below we will describe how different examples of media and design approaches can be observed as the result of the combination of the two dimensions just described, with the goal of defining a space for the convivial design of media through the examination of best and worst practices of media design. Four platforms will be brought as examples, selected because they are representative of the different intersections between the dimensions considered and in most cases already studied or experienced by the authors of this paper.

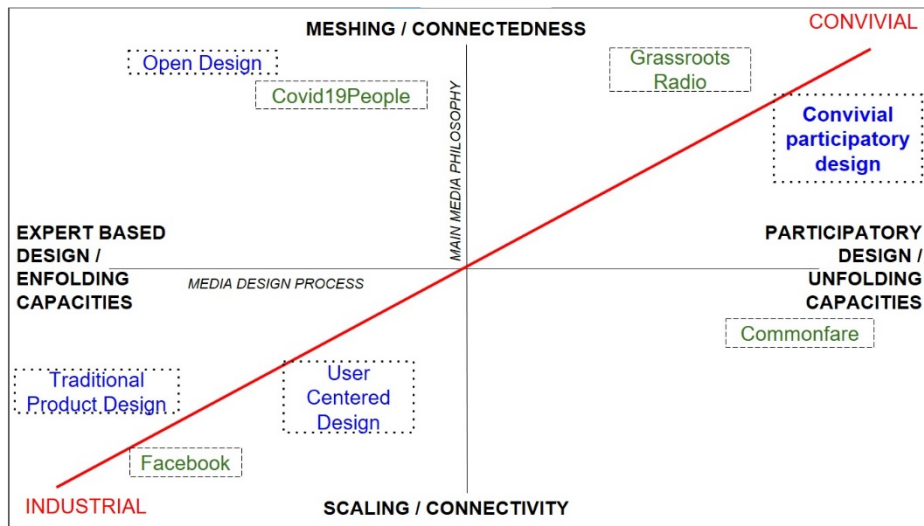


Fig. 1 Exploring the conviviality of some platforms and design approaches in relation to their philosophy and level of users' engagement in the design process

In the two left quarters of Figure 1, we positioned examples of platforms whose design is mostly related to the expertise of professionals and whose values and prescriptions are primarily enfolded into a *black box* [57, 58] and not visible to the users. This is truer for those platforms in the lower left corner, which Illich would probably call *industrial* platforms. They aim at connecting users' data to scale globally. The main examples are the GAFAM-owned digital platforms, which nowadays can be considered real *radical monopolies*, quoting Illich again. They are based on the datafication and commodification of the audience [35], and, for this reason, they can be considered industrial tools of capital accumulation at a global level. To give an example, albeit a platform like Facebook have integrated into its business model practices and technologies derived from open source² [59, 60], and therefore with an initial focus on the involvement of users in the design process of technology, currently its primary design model is based on the presence of experts who consider people as "consumers" or "subjects" [55]. As the "Cambridge Analytica" scandal demonstrated, such platform is a black box for users, who have few possibilities of understanding how the data they produce will be used and the consequences of their interaction with the platform. This shows, if it was still necessary, that user-centered or human-centered approaches to design do not have the same attention to power dynamics that PD has. The observation of the platform through the three conviviality criteria seen above (Table 2) highlights how both user creativity and power-sharing are severely limited by the presence of rigid structures and lack of transparency in data management and publishable content. The platform offers the possibility to work on the creation of relationships, but the underlying logic is always related to the capitalization of information through the use of an algorithm whose content is practically unknown.

² See for instance <https://opensource.fb.com/>

Table 2 Analysis of 4 platforms in relation to the 3 different conviviality criteria

	Facebook	Covid19italia.help	Commonfare.net	Grassroots Radio
<i>Self-expression</i>	Rigid structure and lack of transparency.	Limited by expert-knowledge.	Involvement of users and stakeholders.	Involvement of users and stakeholders.
<i>Power dimension</i>	Rigid structure and lack of transparency.	Broad transparency and access.	Involvement of users and stakeholders.	Involvement of users and stakeholders.
<i>Relational assets</i>	Relationships constrained by algorithm and profit.	Attention for local communities.	Relational assets but scaling issues.	Focused on local communities.

The platforms located in this area of Figure 1 are mainly designed through the application of traditional product design processes, who are based on establishing requirements, designing alternatives, prototyping and then evaluating. Users are considered at the end of this chain of activities just to validate the ideas produced by experts [61]. Sometimes these processes are mixed also with other techniques of user-centered design where people are involved not only at the moment of the final evaluation, but in previous steps through interviews, surveys, observation etc., through which the designer will be able “to translate the users’ needs and goals into a design solution” ([61] p. 808). The transformation of the initial input through user-centered techniques and the output for users’ evaluation remains a black box for people, and it follows mainly the expert-based reasoning of the designing organization.

In the top-left area of Figure 1 we can find examples of platforms which are certainly structured through an expert-based approach, but whose philosophy aimed at public good and social justice often leads them to include actors from civil society in their design. These platforms are created following an open design approach, based on the adoption of open practices and legal frameworks - directly inspired by Free and Open Source Software - in which people participate because of their interest and expertise and through forms of ad-hocracy.

An example is Covid19italia.help³, a mutual aid platform aimed at mapping the efforts of the local communities to tackle together the various problems (food delivery, fundraising, need of information etc.) emerged during the recent Covid-19 pandemic. The platform was started by a group of activists that had already developed a similar project during an earthquake in Italy. The group of activists is composed of developers, journalists, translators, normal citizens and it is open to the participation of everyone. The data collected are released as open data and the platform is open source: this

³ <https://covid19italia.help/en/>

allowed activists from other countries to easily reproduce the platform. Here we are faced with a platform that works to limit power inequalities and to create relational assets through broad transparency and access guaranteed by being open technologies and attention for dynamics related to local communities (Table 2). At the same time, the frequent reliance on the use of expert knowledge especially related to the IT world and the design in the hands mainly of experts (albeit from civil society) limits the possibility of guaranteeing a broad capacity for self-expression on the part of users.

Moving to the two quarters at the right of Figure 1, we find examples of platforms designed through a collaboration with the users, which are considered as creators within activities of Participatory Design. On the bottom we can find those platforms whose focus is the connection of people on a macro level as Commonfare.net⁴, a platform designed within a European project [45, 52, 62] with the aim of sharing stories and experiences about social collaboration, supporting the realization of cooperative welfare practices, and collecting and sharing information on local and national welfare measures in Europe. The platform has been designed through the collaboration of academic organizations, technical organizations, and local NGOs. The involvement of users and stakeholders both in the design of the platform and in the production of content and events makes this technology a tool capable of mitigating power inequalities and enabling user creativity (Table 2). The platform helps to promote communication and interdependence between people, but the need to bring different national contexts together does not facilitate the creation of relational assets between communities.

Finally, the top-right quarter is the one where we can find platforms with features in line with Illich's definition of convivial tools, and that are the result of what we call "Convivial Participatory Design": users can collaborate in the definition of the platform and express their creativity, and the platforms support the possibility to develop relational assets within local communities. An example of this kind is the aforementioned Grassroots Radio (Grassroot Wavelengths⁵) [41], a European project aimed at the Participatory Design and co-development of a platform that supports the creation of community radio stations in isolated areas. The project is based on an open software and hardware platform that makes the management and the governance of community radio stations easy and sustainable. The rationale is the empowerment of local communities in the area of media pluralism together with the possibility for these stations to create networks where contents, best practices and ideas can be shared. Through the collaboration between researchers, designers and local volunteers, the stations are based on the needs of the communities (Table 2).

6 Conclusion: toward a Convivial Participatory Design for the platform society

In this paper, we have tried to use Illich's theory of conviviality to open a dialogue

⁴ <https://commonfare.net/>

⁵ <https://cordis.europa.eu/project/id/780890>

between Critical Media Studies and Participatory Design. We believe that Illich's reflection on convivial tools is still relevant and can provide fertile ground for a cross-pollination between Critical Media Studies and Participatory Design. For Critical Media Studies the theory of conviviality provides a vocabulary suitable not only to criticize the monopolistic tendencies of platform capitalism but above all to propose a political economy of digital platforms that could represent an alternative to both platform capitalism and state-governed platformization (i.e. Chinese model). While at Participatory Design studies, Illich's reflection provides a way of conceptualizing the professional practices and methodological competences developed over decades in connection with the history of radical monopolies and their critiques. In this way, the initial impetus of Participatory Design scholars to engage with the political economy of their times can be renewed and support practitioners in articulating contemporary political visions [46] for their work connected to the history of technologies.

The meeting between Critical Media Studies and Participatory Design studies on the field of conviviality finally led us towards the envisioning of an improved digital media design process alternative to the political economy of platform capitalism, which we have described in Figure 1, addressing the structural inequalities of the latter by empowering those users who usually have no voice in the process. The result of this path is a form of Participatory Design that respects the idea of conviviality described by Illich almost fifty years ago, what we called "Convivial Participatory Design". In order for a Participatory Design process to be convivial, it must keep under control the scale of the project and its ability to connect users within power relationships as equal and non-exploitative as possible, where data and the people who produce them are considered as a common resource (digital commons) and not as a commodity. To this end, the platform must aim at building relational assets between local communities enabled to participate while maintaining their autonomy and ability to influence not only the content but also the dynamics pertaining to the platform itself. The increase in connectedness and the meshing of relations must occur by creating networks that allow sharing between these communities without losing sight of the particularities of the situations and the actors usually placed on the margins. We saw that this is possible only through the real engagement of the users in the design of the platform since its ideation (or even before it - giving them the possibility to imagine desirable futures), offering those socio-technical tools that would allow people to express their creativity and to avoid the emergence of power inequalities. These measures create the conditions for the platform to "unfold", making its values and goals transparent and supporting the creation of trustworthy links between the people involved and the platform itself.

Quoting Illich, we could say that Convivial Participatory Design should be aimed at "inverting the present deep structure of tools" ([6] p. 23), that is to find ways for a collective appropriation of the platforms, also recurring to the participation of people in their design and domestication. We can add that developing software as Free and Open Source one can't be sufficient, although it is necessary in the current situation, as license agreements are not necessarily changing the profit-making logic behind capitalist development of technologies [59].

For critical media scholars as well, thinking of a medium as convivial, forces us to focus on the needs of the people who will use it rather than the interests of those who produce it. As Bonini and colleagues claimed, "as media scholars, reflecting on the conviviality of a certain media object or platform, allow us to escape from media-centric

positions and invites us to shift our attention from media as a message to media as a practice (Couldry, 2004)” ([30] p. 7). This means to move from the study of media only as texts or production structures to focus more on all those practices related directly or indirectly to the media [68]. Bonini and colleagues [30] also claim that a convivial approach to Critical Media Studies suggests us to focus on the benefits people can derive from a convivial media, to the role media can play in democracy and the sharing of non-proprietary knowledge.

The need to focus this paper on identifying common ground for dialogue between different disciplines through Illich's thought has allowed only a preliminary observation of how the concepts developed in the study of platforms, and in supporting their design, work. More research is needed, for instance, on how the conviviality of platforms can be reconciled with their ability to be sustainable over time and not subject to lack of use and abandonment. This need is also in light of recent technological innovations in the field of artificial intelligence, which are pushing for greater industrialization of the design and development process of the platforms and the need for large amounts of capital. The complex articulation of those issues requires more research and practice, but we are convinced that convivial alternatives to the current state of things can emerge only through the meshing of theories, concepts, and methods of a variety of professionals. With this paper, we tried to contribute to this necessary conversation.

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