## 6. MEDIATORS UPKEEPING COMMUNITIES

Up to now we have struggled to extract meaning from a vast and variegated set of accounts. In order to deal with almost one thousand applications, we have been forced to reduce complexity to a manageable level by relying on co-occurrence patterns and relational analysis. In so doing, we’ve found a set of elements associated with ‘online community’ (chapter 4), demonstrated the appropriateness of not selecting a type of grouping in advance, and singled out some meaningful topics and narratives (chapter 5).

During these stages, we have always refrained from the temptation to add some explanation to what we were just describing. Every time this temptation came to our mind, we struck up loudly our *noli me tangere*[[1]](#footnote-1)towards definitions, correlations, conceptual assumptions and methodological protocols. If such a lonely and renouncing Franciscan path was undertaken, it is because at the end of 2000s postulating a definition for a fuzzy object of study called ‘online community’ would have cast this research miles away from (second level) objectivity. Nothing would have been easier than starting from presuppositions. On the contrary, it was the incommensurable distance between much diverse initiatives – all defined as ‘online communities’ – that suggested the need to make a clean sweep and start on a much longer and laborious journey. Tracing back communities is still the goal of this journey, mapping the cartography of the different theories of action associated with them is the means.

The narratives discussed in the last chapter however suggest the need to investigate, in depth, the role of digital artefacts in upkeeping communities. The analysis conducted until now is half of the story, the half that had to reduce the complexity of the social when dealing with vast data sets. The other half lies in the opposite movement of addition, proliferation, and observation. At this point of the book, the time has come to increase the sensitivity of our analysis, and to privilege an articulated observation of a small number of applications, so that the role of artefacts may emerge in more detail than when addressing the whole data set.

This chapter attempts to deepen the investigation into different theories of action that underpin the development of digital communities through the role attributed to artefacts. It analyses the relationship between societal outcomes and digital artefacts, as it was laid down by communities’ spokespersons.

To do so, following Haraway’s suggestion to think about scientific and technological practice as story-telling, I conduct narrative analyses of a smaller number of case studies.[[2]](#footnote-2) By focusing on the artefacts whereby groups are kept assembled, I describe the theories of action underpinning the rationale of the projects which from 2004 to 2007 were granted a *Golden Nica* (first prize) or an *Award of Distinction* (second prize) at Ars Electronica.

Notably, in the following analyses I have borrowed Latour’s list of traces left behind by activities of group formation[[3]](#footnote-3) and the distinction between mediator and intermediary, already introduced in section 5.2.[[4]](#footnote-4) From semiotics, the analysis has borrowed the notion of ‘competence’, the distinction between actants and actors and the notions of ‘Addresser’ and ‘Addressee’ (see Table 10 in Annex C)[[5]](#footnote-5). In particular, the patient work in search of mediators does not claim to be complete, even if, differently from chapters 4 and 5, here reduction is sacrificed to proliferation, comprehensiveness to articulation.[[6]](#footnote-6)

## 6.1 Tonga.Online. Or of Rivers, Dams, Antelope Horns and Digital music

An amazingly rich case of proliferation of mediations is provided by the *Tonga.Online* application. This project won an Award of Distinction in 2004. It is an offspring of a cultural exchange program between Austrian and Zimbabwean artists and NGOs which has been running for more than ten years. But let the spokesperson talk by herself:

In 2001/02 the Tonga.Online project has established the first community-based Internet and Computer Centre in one of the remotest areas of Zimbabwe. Encouraged by the response, the project is now striving to reach out to other villages and across the waters of the Zambezi River into Zambia. The Tonga community – only fifty years ago forcibly divided by the advent of modern technology and the building of Kariba dam – has taken up the chance to use the most advanced communication technology for rebuilding and improving links within the community and with the world abroad. A truly local area network of telecentres is in the extension stage. One could perceive the Tonga people as a digital community per se because of their music. Despite their harsh living conditions the Tonga people have always adhered to their cultural heritage and ways of communicating oral traditions that are generations old. Their unique Ngoma Buntibe Music is a kind of binary or digital music in its own sense since one musician is mastering one note only by contributing a short blow on an antelope horn to an incredible storm of sound and stamping movements. Robert Bilek (a journalist with ORF / Vienna) after an encounter in 2001: ‘The music of the Tonga could be perceived as a system of binary individual decisions, sound or silence, 1 or 0, within the matrix of a creative group performance. Through this sound, through this seemingly wild and chaotic order, the community reassures itself of its coherence... It appears that the Tonga people’s understanding of digital technology has its roots in their musical tradition. What could prevent them from covering new grounds using computers?’ There is a smart gadget which has proved to be very helpful in expanding the project beyond the centres. It is a mobile device called Alpha Smart, a kind of expanded keyboard run on batteries. Penny Yon and Theophorah Sianyuka are closely monitoring the establishment of two more telecentres in Sianzyundu and Siachilaba villages from May 2004 onwards. They will use the Alpha Smarts (and a digital camera) to provide and collect messages and digital reflections on the effects of the project extension and send them frequently onto the website www.mulonga.net. These contributions will create a kind of social intervention sculpture by addressing stakeholders and the general public – from Siachilaba pupils to the fishermen or smugglers on Lake Kariba, from basket weaving women to the Chief’s messenger on his bike or the Cuban doctor at Binga Hospital. This exercise will be concluded with the festive opening of the Centres on 4th/5th September 2004 (concurrent with Ars Electronica Festival) when Ngoma Buntibe musicians from Binga area and their counterparts from Zambia will complement the modern means of communication and celebrate the smart X tension of the Tonga.Online project in their own way.[[7]](#footnote-7)

This account wonderfully testifies the flamboyant life of artefacts. From dams on the Zambezi River to ‘modern technology’, from the Ngoma Buntibe Music to mobile devices, all these entities take part in some way in the course of action whose goal is ‘rebuilding and improving links within the community and with the world abroad’. From this perspective, the extension of the project across the waters of the Zambezi River provides the figuration into which the goal – the unity of the Tonga people – is embodied. Fifty years earlier, this unity was dismantled by ‘the advent of modern technology and the building of Kariba dam’: two actants in their own right which are endowed with figurations borrowed from the ranks of modernity.

In this account, three of the four kinds of traces left behind by the formation of groups are present. Apart from the spokesperson – obviously the one that submitted the project for evaluation and wrote the application – a professional enters the network in order to make possible the durable definition of the community. Austrian journalist Robert Bilek’s account is itself part of what makes the group exist, since it provides the community with a theory of action (see below). As to the third trace left behind, boundaries are created and rendered durable by appealing to tradition and cultural heritage: ‘despite the harsh living conditions the Tonga people have always adhered to their cultural heritage and ways of communicating oral traditions that are generations old’. It is the cultural heritage and the ways of communication that define the Tonga community as a stable entity, that make it hold against the centrifugal force exerted by the harsh living conditions and that ferry the community directly into the digital age.

Actually, the theory of action underpinning the project’s vision of the digital community is overtly expressed through the journalist’s voice: ‘it appears that the Tonga people’s understanding of digital technology has its roots in their musical tradition’. It is the traditional Ngoma Buntibe Music that act as a powerful mediator and translates agency from the ‘short blow on an antelope horn’ into a binary – and therefore digital – sound. The Ngoma Buntibe Music is not only what keeps the Tonga people united in spite of the diaspora started by modern technologies, but also the actant that carries this assemblage into the computer era.

Once the Tonga assemblage has shored on the quieter coasts of digital post-modernity, other adjutants get to march side by side with the Ngoma Buntibe Music to realize the goal of extending the project over geographical boundaries. Notably, the mobile device Alpha Smart ‘proved to be very helpful in expanding the project beyond the centres’.[[8]](#footnote-8) Here, information technology allows the project leaders to activate new mediators: ‘messages and digital reflections’ that, in turn, create new associations with geographically dispersed actants, stakeholders,[[9]](#footnote-9) Siachilaba pupils, the fishermen or smugglers on Lake Kariba, basket weaving women, the Chief’s messenger on his bike, the Cuban doctor.

The *Tonga.Online – smart X tension* project is an exemplary case where mediators proliferate and the chain that translates agency stretches out in many directions. Nonetheless, this is a peculiar case: it may happen that the chain is arbitrarily short-cut before agency be fully unfolded, as we are going to see in the next section.

## 6.2 ICT and Developing Countries: Empowerment as a Cause-and-effect Relationship

The case studies discussed in this section do not represent the totality of the winning projects implemented in developing countries, but only those whose goals deal with empowerment of disadvantaged populations and/or consider belonging to the so called ‘Global South’ as a distinguishing element. We have already taken into consideration projects showing narratives of empowerment in chapters 4 and 5. Here, by analysing four cases in depth, I show how similar projects tend to be associated with short chains of action.

Differently from the *Tonga.Online* project, the *Akshaya* submission characterizes itself for the low number of mediators involved in the course of action. This project – that won the Golden Nica in 2005 – was developed in Kerala (India) to address the question of digital divide. It was implemented by the Government of Kerala through Kerala State IT Mission, the agency for implementing IT policies, and was run by local entrepreneurs.

In the submission,[[10]](#footnote-10) four objectives and relative theories of action are mentioned. The first goal (‘Universal IT Access’) aims at setting and maintaining 4500 – 6000 Akshaya e-centres. Here, only one mediator is involved: entrepreneurs running the centres rely on e-literacy courses to assure self-sustainability to each centre. Other technological entities – broadband wireless, computers, scanners, printers, webcams, software, IP phones – appear as mere intermediaries, since their presence does not affect the outcome.

The second objective (‘E-literacy’) aims at familiarizing people with IT and improving their computer skills. There exist also a meta-goal: to ‘create a 100% literate state’. Here, the theory of action is underpinned by an overtly causal relation: ‘the process of providing the skill sets shall lead to the creation of a long lasting relation between the Akshaya centres and the families in the catchment, which on a macro level will generate a state wide data warehouse and repository’ (*Akshaya* submission). In these words, it is not clear *through which means* the process of providing skills will cause a stable relationship whose ultimate outcome is a data repository. As we have seen, in the social domain stability is a costly exception. Face-to-face, unequipped interactions using only basic social skills pertain to a very limited sphere, namely to baboons.[[11]](#footnote-11) Unequipped interactions alone cannot bear the weight of maintaining stable relationships that need to be ceaselessly negotiated. It is objects that allow long-standing relationships. However, in the *Akshaya* account there are no traces of the means whereby the long lasting relation between the centres and the families are supposed to be maintained.

A similar lack of mediators characterizes also the third (‘Creation of Micro ICT Enterprises’) and fourth (‘Creation of ICT Service Delivery Points’) objectives. As to the creation of micro IT enterprises, the theory of action is ‘im-mediate’: entrepreneurs emerged from the local community are seen as lending their ‘entrepreneurial spirit’ to the ‘total development’ of community. Here again, no mediators intervene either in the emergence of the entrepreneurs from the community, or in the opposite translation of this spirit from entrepreneurs to communities. Their ‘skills and resources’ just transport agency: they do not affect the outcome in one direction rather than another, nor trigger other mediators.

Summing up, in the *Akshaya* account there are some intermediaries and only one mediator. Agency gets stopped after few passages and may not rely on entities that translate the initial inputs. As a matter of fact, apart from their role as birth places of the entrepreneurs, there are few references to local communities and the relationship between technology and social ties is explained in terms of cause-and-effect, as one of ‘empowerment’ im-mediately proceeding from e-centres to families.

A less deterministic theory of action characterizes *Proyecto Cyberela – Radio Telecentros*, a Brazilian initiative that was granted an Award of Distinction in 2006. As it is explained in the submission,[[12]](#footnote-12) this project was started in 1990 by the NGO *Cemina* as an initiative aimed at ‘developing female communitarian leadership as an agent of social transformation’. Since this early commitment, the (analogue) radio has been conceived of as a strategic adjuvant, a media(tor) enabling women to promote human rights and gender empowerment: ‘the radio as a medium was chosen for that purpose because it is the simplest and cheapest means of communication, and it reaches 98% of the population, being that women are the biggest listeners’ (*Proyecto Cyberela – Radio Telecentros* submission, Author’s translation). Over the years, female radio-makers attending Cemina’s classes gathered in the *Red de Mujeres de Rádio (RMR)*: an assemblage born out of the desire to ‘strengthen their activities’.

However, with the advent of digital information technologies new challenges arose and new mediators were needed. The new goal became to include women into the new digital realm:

the scenario imposed by the new information and communication technologies (ICT) presented a great challenge for Cemina: either women are part of that process or they would be once again excluded from the equal participation to society. Including women in the world of information technology and the Internet, while continuing to use the radio, became a priority for the institution.[[13]](#footnote-13)

On one hand, the change of the strategic goal from ‘developing female leadership’ to ‘including women in the computer and internet domain’ marks a major shift in the role of information technologies: from being instruments, ICT are transformed into ‘skills’ and become the main goal (‘prioridad’) of the course of action. On the other hand, gender-focused attention is transformed: from being the result of sensitization policies it becomes an intermediary (in the form of ‘contents’) that can attract women. Notably, if the (now digital) radio continues to act as a mediator, it is because it renders gender-related contents available: ‘www.radiofalamulher.com helped to intensify the strategy of attracting women to that universe with the availability of radio content with a focus on gender and human rights on the Internet’ (*Proyecto Cyberela – Radio Telecentros* submission, Author’s translation). If the internet radio ‘helped’ – and is thus a mediator –, there is no further specification about *how* contents attracted women to be included in the digital realm. This arbitrary restraint of the course of action shows that gender and human rights-focused contents act as mere intermediaries. Table 11 summarizes this analysis, stressing the changing role of communication artefacts.

|  |  |  |
| --- | --- | --- |
|  | Before the advent of the digital domain | With advent of the digital domain |
| Radio | (Analogue)  Mediator | (Internet radio)  Mediator |
| ICT | (correspond to analogue radio) | (Seen as ‘skills’)  Goal to be reached |
| Gender and human rights commitment | (Attention)  Result of policies | (Becomes ‘Contents’)  Intermediary |

Table 11 – *Proyecto Cyberela – Radio Telecentros*. Variations in the role of radio, ICT and gender commitment following the advent of digital media

Ferrying the radio-makers assemblage into the digital age requires more adjutants than before: the World Bank *Infodev* Program, the *Kellogg* Foundation and UNESCO thus sustained the newly born *Red Cyberela* with technical facilities (i.e., computers, audio editing software, high bandwidth) and support (i.e., training, technical assistance). It is interesting to note that in this submission a clear symmetry exists between humans (i.e., World Bank, *Kellogg* Foundation, UNESCO) seen as mediators and non-humans (i.e., technical facilities) seen as intermediaries.

To fully catch the theory of action underpinning this project, there is still a consideration to make. The project’s great interest in the digital domain lies on the principle that ICT are causing major transformations in every field of human activity: ‘the emergence of information and communication technologies (ICT) has transformed social relations, education, work, economy and even behavior’.[[14]](#footnote-14) (As a consequence, access to ICT is seen as a pre-conditionfor development. The submission justifies this consideration through statistical data depicting women as deeply excluded from access to ICT, to the point that the United Nations and ‘all the indicators of human development’ have recognized women access to ICT as strategic. In other words, the gender perspective is legitimized by appealing to statistical data. It is statistics that provides the boundaries around which the group ‘disempowered women’ is made to exist.

Also the third project discussed in this section uses statistics as a source for setting up group boundaries.[[15]](#footnote-15) *The World Starts With Me* focuses on young Ugandans between 12 and 19. This project – which won the Golden Nica in 2004 – provided a digital learning environment about sexual and reproductive health education and AIDS prevention. Its goal was double: to ‘improve the sexual health of young people in East Africa while providing [computer] skills relevant to the job market’ (*The World Starts With Me* submission). Here, too, entering the digital age by acquiring computer skills is one of the objectives. Nonetheless, differently from the previous project, in this case ICT skills are not only a ‘necessity to enter the job market’, but also something that ‘stimulates curiosity to learn more’. That is, computer skills are not merely conceived of as the point of arrival, but as a competence that triggers other actions.

The *World Starts With Me* program is rather complex and gathers a lot of mediators, both human and non-human. There are five main groups involved in the project:

- the WSWM development and program teams; Butterfly Works and WPF, Netherlands - The individual schools, teachers and students who use / run the program in Uganda co-ordinated by SchoolNet Uganda - The SRH partners for knowledge and counselling back up; WIDE and FPA, Uganda - The SRH partner for online counselling; Straight Talk, Uganda - The NairoBits project, who run the pilot in Nairobi, Kenya,[[16]](#footnote-16)

The Dutch NGO *Butterfly Works* developed the project with local artists, health trainers and teachers supported by the *World Population Foundation* (WPF), a Dutch foundation supporting programs about sexual and reproductive health in developing countries. The *SchoolNet Uganda network* linked and supported 52 schools and telecentres throughout Uganda with computers. It included all types of schools: from male/female-only to mixed schools, from poor to rich, from urban to rural. Schools intervened not only as targets of the final product, but also at the pre-testing and pilot stages. WIDE was ‘a small sexual health and training office of young Ugandan trainers’.[[17]](#footnote-17) The *Family Planning Association* (FPA) used to have clinics throughout Uganda that supported people in SRH issues. *Straight Talk* provided online counselling on SRH. *NairoBits* was a digital design school for young people from slum areas in Nairobi founded by Butterfly Works in 2000. The trainers at NairoBits were themselves youth from the slums who became web-designers and teachers. NairoBits was in charge of adapting the pilot program developed in Uganda into Kenya urban areas.

In addition to these, other mediators emerge when considering how WSWM worked on field. First, the WSWM software environment itself was a mediator: on one hand, ‘by promoting self-esteem and gender equality and by empowering young people with information and skills regarding their (sexual and reproductive) rights, the curriculum *supports* young people and in particular young women in helping them to safeguard and enjoy their own sexual and reproductive health’.[[18]](#footnote-18) On the other hand, the software was an adjutant for teachers, too, as it helped them to connect to their students: ‘for teachers in schools it is new approach to education, that gives them the chance to actually reach their students and talk about important life issues’.[[19]](#footnote-19)

Second, teachers were also mobilized as professionals evaluating the project. In the submission, quotations by teachers that run the program in their classes were reported:

quotes: Alex Okwaput (teacher Bishops Senior, Mukono District and teacher co-ordinator of WSWM): “Using WSWM changed my whole teaching and style in my other classes”. Alandi Marion (teacher at Moroto SS): “Do you know what? Guess, during our presentation today one of our students was so excited that he laughed and opened his mouth so widely that his jaws could not close back to normal. Can you imagine that?”.[[20]](#footnote-20)

Third, students that had finished their course acted as facilitators for the new students. Some of the trainers were themselves young from the slums that had become web-designers. In the submission, this organizational model was labelled ‘experiential learning’ and was intended to transform former learners into mediators playing ‘an active role in expanding the program to as many others as possible’. This form of knowledge transfer based on the proliferation of mediators is very similar to that of hackers’ communities. As in FLOSS development communities, it is peers and not hierarchical figures that translate knowledge in an informal way.[[21]](#footnote-21)

What is striking in this project is exactly the number and assortment of the mediators mobilized to reach the goal of ‘giving young people self confidence and control over their own lives’.[[22]](#footnote-22) Public schools, foundations, clinics, NGOs, counselling services are assembled with software, students, artists, peer facilitators, people from the slums in an aggregate that blends formal institutions with informal ties.

The last case is *canal\*ACCESSIBLE*, a project dealing with the creation of geo-referenced cartographies of urban places presenting obstacles for the disabled.[[23]](#footnote-23) The project – which was awarded the Golden Nica in 2006 – allowed movement-impaired people to send real time pictures of inaccessible locations to a website, by means of mobile phones equipped with cameras. Every multimedia item was geo-referenced, so that it could be included into a map of the city, available online.

The system was not only aimed at disabled people, but also at other discriminated groups that lacked possibilities of self-expression (e.g., taxi drivers in Mexico City; young gipsies in Lleida y León; prostitutes in Madrid). According to the project’s submission, indeed having the possibility to achieve a means for self-expression would allow minorities to by-pass mainstream media representations about them:

The project is based on the possibility of giving voice and presence on the Internet to groups that suffer discrimination. It is about providing mobile communication technology to these groups so that they can express themselves on the Internet, without having to wait for the representaion that the mainstream means of communication give of them. It is the affected people themselves who explain who they are and what their expectations are. [[24]](#footnote-24)

Mainstream media are thus (anti-)mediators that translate the discriminated groups into their representations. On the contrary, mobile devices cannot be said to be mediators in their own right. They do not affect the output in any way, but are seen as mere channels transporting images from the urban space to the internet website.

More multifaceted considerations are required when it comes to internet and the web. Throughout the application internet is seen as the final platform where maps are published. Under this perspective, it acts as an intermediary, whose presence does not trigger further actions. However, things change in the ‘Lessons learned’ section:

when a discriminated group, that is not accustomed to being listened to, obtains the possibility of expressing itself on the Internet through mobile phones, the first thing that happens is that it does not find what contents to communicate. However, gradually each group has found the topics that most affect it and has also organized itself into sub-groups dedicated to each channel of communication, with contents agreed on in the regular meetings. In the end, they have always managed to articulate and publish specific thematic channels of the group.[[25]](#footnote-25)

Here, it is the possibility of self-expression on the internet that enacts groups by stimulating not only the production of contents, but also the acknowledgement of the most pressing concerns and the organization of the editorial staff. It should be noticed that this theory of action – it is the possibility to access a medium as producers that triggers enacts new actors – is based on a mass-media pattern of interaction where ‘self-expression’ is usually hampered by the broadcasting form of transmission.

All in all, this project shows a rather short chain of action. Although it recognized the transformative potentials of mass-media, it conceives of ICT, and mobile phones in particular, mainly as intermediaries.

Summing up the results of the four analyses, there emerge two macro-types of digital communities aiming at empowering disadvantaged populations.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Tonga.On-line | Akshaya | Proyecto Cyberela – Radio Tel. | The World Starts with Me | canal\*  ACCESSI-BLE |
| Source of bound-aries | Cultural heritage and traditions  (Tonga people) | Geopolitical/  administrative (local communities in Kerala) | Statistics  (gender) | Statistic  (age and, partially, gender) | Social discrimination |
| Role of digital ICT | Mediators  (Alpha Smart triggers ‘msg and digital reflections’ creating associations with dispersed actants) | ICT-skills and data repository as goals. Wireless net, computers, scanners, etc. as intermediaries | ICT-skills are goals. Technical facilities as intermediaries | Pc as intermediary (may be substituted). But ICT-skills as a competence. WSWM is a mediator | Mobile phones and digital photos as intermedi-aries; Internet alternatively as mediator or intermediary |
| Role of other tech-nologies | Music as mediator that translates the cultural heritage into the digital age | / | Radio as mediator | Low-tech objects (i.e. paper&pencil, local materials) as intermediaries | Broadcast media as (anti-) mediators |
| Medi-ators/  inter-medi-aries | Many mediators,  agency chain extends in many directions | One mediator, some intermedi-aries. Very short agency chain | Few human mediators, some non-human intermediaries | Many mediators | Three mediators, some intermediaries |
| Profes-sionals | Journalist | / | / | Teachers | / |
| Relation-ship Address-er/Ad-dressee | No distinction | Clearly distinct  (Service delivery business) | Fairly distinct after the advent of digital media | Only during course: stu-dents who finish it become facilitators | Fairly distinct: ‘disadvantaged groups’ and project promoters do not blur |

Table 12 – Summary of the theories of action associated with ‘empowerment’

This comparison shows that the source of boundaries is a crucial element. It is correlated to the theory of action that underpins the development of a community. Projects addressing disadvantaged groups whose existence appeals to administrative or statistical boundaries tend to display specific narratives of empowerment. According to these narratives, target groups are pushed to acquire ICT skills in order to enter the information age, and ICT skills and digital access are conceived of as a goal in itself. The relationship between digital technologies and social ties is often one of cause-and-effect: access to technical facilities (and occasionally literacy courses) is supposed to immediately lead to better living conditions. As a consequence, the chain that transports agency is rather short, with few mediators and some intermediaries. In these accounts, ICT are conceived of as ‘technological facilities’ that act as intermediaries.

Furthermore, in similar accounts the roles of Addresser and Addressee are easily distinguishable: there is one entity – the project designer – that acts as sender in a communication process (classes, service provisioning, etc.), and a group which is supposed to be the receiver of this process. In *Akshaya*, for instance, entrepreneurs implement the e-centres and the local communities are the target group which benefits from the activity of the entrepreneurs. Similarly, in *Proyecto Cyberela – Radio Telecentros*, after the advent of digital technologies the role of Cemina as core team got distinguished from that of the radio-makers, who stopped to act as local leaders and became addressees of Cemina’s classes. In both cases, group identities pre-exist the course of action and boundaries are stabilized: the community has been black-boxed.

The other model is exemplified by *Tonga.Online.* This project does not deal with statistical boundaries, but rather borrows its source of identity from the cultural heritage. Here, ICT are seen as one of the many types of mediators participating in the course of action. Mediators are not only human beings, but also digital devices and traditional music. Every mediator introduces a bifurcation in the course of action and triggers new participants. The chain that transports agency extends in many directions and includes also a journalist mobilized in order to make the group exist. The empowered community that results is enacted through this concatenation of action. In this dynamic techno-social assemblage, distinguishing the project designer from the target becomes meaningless.

Lastly, *The World Starts With Me* locates among these two types of digital community. Like the first type, it appeals to statistics in order to legitimize the focus on disadvantaged youth and conceives of computers and technical facilities as intermediaries that may be replaced by paper and pencil. On the other hand, many mediators – both human and machinic, institutional and informal – are involved and the acquisition of ICT skills is not seen only as a goal, but as a competence that triggers other courses of action. In addition, actors’ enactment is explicit: through the experiential learning model, former students may become peer facilitators, that is, mediators in their own right.

## 6.3 ‘Free’ as in ‘Freedom’: When Digital Communities Become Movements

Distinguishing different typologies of digital communities is less clear-cut when it comes to communities that appeal to freedom as the source of their action. This is the case of projects like the *Electronic Frontier Foundation,* the *Free Software Foundation* and *Telestreet-New Global Vision (NGV)*, which appeal to *freedom* as the source of their boundaries, and entail a political dimension of their action. Looking carefully at their submissions, one could nevertheless notice some minor differences that are expected to lead to different communitarian typologies.

For the *Electronic Frontier Foundation* (EFF)*[[26]](#footnote-26)* – champion of the independence of cyberspace from the brick-and-mortar world, as seen in section 1.1 – ‘freedom in the networked world’ acts as the main principle for action. The Foundation’s objective is ‘to defend freedom of expression, innovation and privacy on the electronic frontier’, in the name of the ‘public interest in digital rights on a global level’.[[27]](#footnote-27)

Freedom is crucial also for the *Free Software Foundation* (FSF)*,[[28]](#footnote-28)* whose objective is ‘to achieve software freedom to cooperate’ (*Free Software Foundation* submission). However, a difference may be noticed in FSF’s and EFF’s accounts. For FSF, the appeal to freedom alone does not justify action. FSF does not address freedom as an abstract concept, but as the practical ‘computer users rights to use, copy, study, modify and redistribute computer programs’. In other words, freedom is not so much valuable in itself, but because it is a condition for cooperation and community making:

FSF's founder, Richard Stallman, had participated in the cooperating community of the 70s while working at MIT. When this community collapsed under pressure for commercialization, he decided to build a new community of cooperation. However, with the proprietary software that had become the norm in the 80s, cooperation was illegal or impossible. To redistribute the software verbatim is illegal; to improve it without a copy of the source code is impossible. To have a community would require replacing that proprietary software with "free software"----software that users are free to change and redistribute (and run).[[29]](#footnote-29)

Community and cooperation are thus the actual values that trigger FSF’s agency, and around which its identity is built.

The *Telestreet* submission[[30]](#footnote-30) conceives of ‘freedom to produce communication’ as the ‘necessary condition for the development of an active, critic and conscious way of being citizen’ (*Telestreet* submission). Its goal is ‘creating relational networks and active citizenship through an integrated use of communication means’: the principles around which the community takes shape are constituted by appeals to active citizenship, not to freedom alone.

This differentiation between an understanding of freedom for freedom’s sake vs. freedom as a condition for cooperation or active citizenship could look like hair-splitting. Nonetheless, it entails further differences. For instance, a further distinction concerns the anti-groups mentioned in the accounts. While for EFF the opponent that limits freedom is the United States Secret Service,[[31]](#footnote-31) Stallman’s early community ‘collapsed under pressure for commercialization’, and Telestreet tend to identify the anti-group with mainstream broadcasting networks.[[32]](#footnote-32) That is, EFF re-enacts early cyberculture’s opposition to the nation-state, while FSF and Telestreet attribute the reduction of freedom to market logics.

These differences correspond to different types of artefacts involved by each of the three communities. EFF shows a fairly deterministic theory of action of technology and society: ‘ICT are transforming society and empowering us as speakers, citizens, creators and consumers’.[[33]](#footnote-33) In reproposing the opposition between the digital domain and formal politics (‘the power of the Net can trump the power of vested politics’), EFF invokes informational resources as agents of change. However, it is not clear how blog posts, podcasts, online videos, and the newsletter are expected to trigger change: ‘EFF works through our website, blog posts,and podcasts, online video projects, “action alerts” that encourage personal political involvement, our email newsletter, the promotion of debates and other interactive events, and online guides and other information for writers and artists who want to express themselves digitally’.[[34]](#footnote-34)

With the exception of action alerts that endow users with a will to act (‘encouragepersonal political involvement’), information resources participate in the course of action as intermediaries. Even when it is pointed out that ‘the website remains the home base for coordinating and disseminating information to our community’, it is not clear *how* the website is supposed to transform the input. Also *YouTube, MySpace* and social networking sites are seen as intermediaries to make EFF’s message available to a wider audience.

EFF itself appears as a stabilized institution. There are different levels of participation: EFF core staff (made of coordinators, activists, ‘techies’, artists, policy analysts, attorneys), EFF members, newsletter subscribers, users of the ‘Action Center’. While being open to subscribers, a similar structure quite easily allows to mark the boundaries of the EFF assemblage, so that external Addressees are clearly defined as ‘those who create and communicate in the electronic world, […] those who are interested in technology policy covering free expression, innovation and privacy’.[[35]](#footnote-35)

Compared to EFF’s, FSF’s submission shows a greater heterogeneity of mediators and does not mention intermediaries. What strikes in this submission is the equivalence of social and technical actors. The GNU operative system, for instance, was developed in order to react to the monopoly of proprietary software that – making cooperation illegal or impossible – used to hamper community making efforts: ‘GNU is the only operating system ever developed specifically for the sake of giving computer users the freedom to cooperate.’ [[36]](#footnote-36)

While GNU is a mediator, it also activates other mediators, like the FSF itself. The FSF was founded in 1985 ‘to raise funds for GNU development, and for promoting users' freedom to share and change software’. In turn, FSF acts as a trusted copyright holder supporting a wider global community of developers, a ‘legal enforcer of the freedoms individuals in the community want protected as their work is distributed’.[[37]](#footnote-37)

Another crucial actor is the kernel Linux that since 1992 has been co-developed with GNU, thus initiating the first completely free operating system. If Linux could be integrated into GNU, it is because it was released under the GNU General Public License. As a consequence, the number of mediators includes also those licenses (GNU GPL, GNU LGPL, GNU GFDL) that ‘guarantee the freedom to copy, modify, and distribute the software and the manuals released under them’.[[38]](#footnote-38)

Furthermore, the GNU project owes much of its existence to the ‘thousands of volunteer developers around the globe’. The peculiar characteristic of this community is that every software user is a potential mediator, since she can write code or documentation, improve it, engage in political activism or simply diffuse knowledge about free software:

Any free software user can contribute to a project, regardless of that user's educational background, socioeconomic status, or geographical location. All that matters is the ability to write code or documentation and the willingness to share the result and what was learned in its creation. Volunteers who don't write code or documentation help by engaging in political activism and telling other people about free software, using the structures and campaigns run by the FSF as their focus.[[39]](#footnote-39)

In the FSF’s submission, the boundaries of the community blur to the point that it is difficult to distinguish an outside. The proliferation of mediators is potentially infinite, as infinite is the number of potential users/developers of free software. This point is explicitly addressed in the ‘statement of reasons’ section of the submission:

The GNU Project, through developing a free software operating system and the GNU General Public License, built the free software community as we know it today. Just think about all of the various communities on the Web---most, if not all, were made possible by the ethical and practical idea of free software and the freedom to cooperate. Wikipedia, last year's winner of this prize, is licensed under the GFDL. MediaWiki, the software it runs on, is released under the GPL. These projects, like many others, draw their contributors to a large extent from the free software community. We cannot claim credit for all of the projects out there and all of the work that went into them, but our role in intentionally building this community, in writing the licenses that these projects predominantly use, and in providing the space for this amazing growth to continue, made it possible to do them.[[40]](#footnote-40)

With the Free Software Foundation, the digital community becomes a movement. With this, I do not mean that it is no longer an assemblage, but rather that it is the quintessence of a techno-social assemblage that strives to remain fluid, to not be black-boxed. This is possible because the ‘ethical and practical ideas’ did not remain abstract, but got embodied into software and cooperation procedures that may be unceasingly modified.

With Telestreet, the online community as a movement is enacted through low- and high-resolution technologies. Here it is not so much the distinction between developer and user that must be overcome, but that between sender and receiver of pre-digital broadcast media.

Telestreet tactically partakes reality, and by so doing every citizen reaches the opportunity to turn from passive viewer into an active subject of an utterance. Actually, Telestreet's approach to communication induces non-professional people to experiment and create new spaces of community, in the neighbourhood as on the Web. Indeed, it is the precondition that the relevant technologies are widely accessible that allows the \*do-it-yourself\* concept to spread and hundreds of micro TVs to raise up.[[41]](#footnote-41)

As for FSF, by providing an ‘approach to communication’ Telestreet itself is a mediator that ‘induces’someone to do something, supported by the new accessibility of media technologies. Since everyone may set up her own TV broadcaster adapting the Telestreet model, the boundaries between senders and receivers tend to blur. Given the reusability of the know-how and the low-cost of the technologies needed, the quantity and quality of potential mediators is infinite. For instance, local authorities ‘implemented the Telestreet project by involving their community members’.

Since broadcasting without governmental licenses is illegal, Telestreet activates mediators borrowed from legislative ranks, as well. Telestreet invokes Article 21 of Italian Constitution on freedom of expression to claim the constitutionality of an initiative that aims to assert media access rights. Also members of Parliament are involved, with the role of introducing the issue of public access to media-making to the Parliament’s agenda.

Further actors come from the range of technology. At first sight, Telestreet’s theory of action may recall technologically deterministic positions conceiving access to media as an empowering factor per se: ‘the result is the birth of a citizenship that becomes active as soon as it takes over the most passive-making communicative tool [television], the one where political and symbolic strategies of Power are greatly at stake in Italy’.[[42]](#footnote-42) When taken as single entities, media are black-boxed, seen as mere channels to transport information. Satellite television and the web, for instance, are conceived of as intermediaries to merely ‘transmit’ Telestreet’s video productions, without affecting the final product. Similarly, the website is described in technical and functional terms, but no considerations are made on *how* it shapes relationships.[[43]](#footnote-43)

Nonetheless, things get more complex when media are combined with other media, or when disassembled into their components. For instance, internet is seen as a mediator that enables social networks when its decentralized nature is combined with the socializing power of the DIY television: ‘it is just combining these two means that it is possible to create social networks’.[[44]](#footnote-44) Similarly, once it has been reverse-engineered by turning the receiver into a transmitter, broadcast television stops to be ‘a tool for exclusion’ and is conceived of as a powerful mediator. It ‘stimulatescreativity of people coming from widely different social classes’, ‘enablespeople to take advantage of their rights’, ‘gives the chance’to passive users to turn into ‘active subjects of communication’, ‘bridges the Digital Divide regarding age as well as gender’.[[45]](#footnote-45)

In summary, if the black box *par excellence* may act as an agent of transformation, it is because it gets decomposed into its elements: transmitter, modulator, amplifier, ‘shadow cones’, cameras, VHS player, mixer, etc.[[46]](#footnote-46) If having access to media is sufficient for citizens to become active, it is not because ICT deterministically ‘empowers’ them, but because they acquire competences through the practice of manipulating, hacking and reverse-engineering media technology. In other words, the DIY ethics itself acts as a mediator that embeds concepts into artefacts in a course of action whose ultimate goal is transforming audience into citizenship. Table 13 summarizes the above analyses.

|  |  |  |  |
| --- | --- | --- | --- |
|  | EFF | FSF | Telestreet |
| Objective | ‘To defend freedom of expression, innovation and privacy on the electronic frontier’ | ‘To achieve sw freedom to cooperate for everyone’ | To create relational networks and active citizenship through an integrated use of communication tools |
| Object of value | Public interest in digital rights on a global level | Computer users rights to use, copy, study, modify and redistribute computer programs | Citizens right to access communication channels |
| Source of boundaries | Freedom in the networked world | Community and cooperation (software freedom is a condition for this) | Active citizenship (Freedom of expression is a condition for this) |
| Addresser | Different levels of participation: EFF staff (coordinators, activists, techies, artists, policy analysts, attorneys), EFF members, nl subscribers, users of Action Center | Richard Stallman made it start. Then it proliferated through users and developers (see mediators) | Orfeo TV started it, but everyone can set up a street TV. Participation is open and the aim is to overcome the distinction between sender and receiver |
| Addressee | ‘Those who create and communicate in the electronic world’, those who are interested in technology policy covering freedom | see mediators (none is only addressee) | see mediators (none is only addressee) |
| Anti-groups | United States Secret Service | Pressure for commercialization.  Proprietary software | Two mainstream broadcasting networks |
| Additional mediators | ‘Action alerts’, *encourage* personal political involvement.  EFF as supporter and enabler of global digital community. | GNU OS *gives* computer users the *freedom* to cooperate. FSF itself *raises funds* for GNU, *promotes* users freedom, is trusted copyright *holder*.  Volunteer developers from around the world. Kernel Linux (‘inspired by the community that we built’).  Users: every software user is a mediator.  Licenses *guarantee* freedom. | Telestreet *induces* non-professional people to experiment.  Users are mediators.  Article 21 of Italian Constitution invoked to assert Telestreet constitutionality, deputies mobilized.  Media when combined or disassembled: Internet + DIY TV *stimulates* creativity, *gives chance* to become active, *enables* people, *bridges* gender and age divide. DIY ethics |
| Inter-mediaries | website, blog posts, podcasts, online video projects, newsletter, online guides.  YouTube, MySpace, social network sites | / | Media when taken as single channels (satellite Tv, website) |

Table 13 – Comparison among EFF, FSF, Telestreet

In all the three cases analyzed, the digital community participating in the competition is part of a wider global community pursuing respectively freedom in the digital realm, free cooperation in software development, and freedom of expression as a condition to promote active citizenship. Nevertheless, it should be noticed that for EFF freedom is something to be defended, for FSF a value to be achieved, for Telestreet a right to struggle for. That is, according to the EFF’s account freedom is something achieved in the past that is to be preserved. According to FSF and Telestreet submissions, conversely, freedom is a process associated with the proliferation of mediators, that is, users that adopt the DIY approach and modify technology according to their needs.

Furthermore, while EFF addresses audiences that are external to its multi-level organization, by including users as mediators FSF and Telestreet bring openness to its extreme consequences, to the point that the boundaries of the community liquefy into a movement. This is possible because ideas are embedded into artefacts that can be modified by users themselves: code and licenses in the case of FSF, broadcasting and web technology for Telestreet. In this regard, FSF and Telestreet re-enact net art’s critique of the author Vs. spectator distinction (section 1.3), as well as mediactivism’s attempts of techno-social organization through web platforms (section 1.4).

## 6.4 The Web as Mediator. Web 2.0 Tools and User-generated-Contents

The novelty introduced by communities like FSF and Telestreet concerns the fact that users and technologies enter the course of action as mediators in their own right. Another project that goes in this direction is *Overmundo*, a Web 2.0 platform that won the Golden Nica in 2007. It’s goal is ‘to promote the emergence of the Brazilian culture, in all its complexity and geographical diversity’.[[47]](#footnote-47) [[48]](#footnote-48) This need comes from the lack of adequate coverage of local cultural scenes by mainstream media, which tend to focus on the two largest Brazilian cities. Artists, journalists, bloggers and cultural groups from throughout Brazil are expected to post articles, pictures, movies, music on this Web 2.0 platform, thus getting over isolation and achieving national visibility.

Figure 17 summarizes the actors identified in the analysis of the submission (green labels indicate proper names). What characterizes this project’s submission is the attentive account of how the *Overmundo* community has been constituted as the result of a long chain of actions mainly embedded in software.

Figure17

Figure 17 – Visualization of the Overmundo network of mediators

Initially, twenty-seven contributors (one in each of the Brazilian states) were hired by the designer group to regularly post about cultural developments in their states. As proper mediators, ‘Overminas’ and ‘Overmanos’ were also in charge of activating other users in their states to start contributing to the website. Furthermore, this initial group set the ‘rules of the game’, the quality standards to which the subsequent contributions had to adapt.

The Overmundo web platform was tasked with shaping the workflow whereby users could post, decide the priority of items on the homepage, evaluate contributions, determine the duration of a post. It was charged with the task of mediating between the main goal (i.e., achieve 100% of users-produced contents) and the need for a quality control system:

What types of technological tools should be used to achieve this goal? Should the content be freely editable such as the Wikipedia? Should it be edited by a centralized editorial board, such as the Korean newspaper OhMyNews? In order to answer these questions, Overmundo had to keep in mind very clearly what was the problem it was trying to solve. The choice of one particular model instead of another had to be made keeping in sight the specific goals to achieve, and the true possibility of building a comprehensive community pursuing the same goals.[[49]](#footnote-49)

For example, the workflow included an initial ‘Editing Line’ function, which kept new posts in quarantine before publication, so that authors and other users could modify it. After quarantine, items used to pass to the ‘Voting Line’, where users could vote the article. The voting system made use of ‘Overpoints’, points associated to positive votes. The position of an article on the homepage was determined by the amount of Overpoints. Finally, users’ votes were weighted on the basis of a reputation system called ‘Karma’. Users with more Karma points used to have more Overpoints and thus more editorial power.

This workflow exemplifies Shirky’s point that ‘social software is political science in executable form’[[50]](#footnote-50), as well as the notion of ‘script’.[[51]](#footnote-51) The Overmundo platform assigned tasks and decisional power to some actors, while it limited others. In other words, political decisions about representation and reputation were embedded in code, which established the procedures whereby the community could assemble. Summing up, the Overmundo submission described in details the actions that brought to the emergence of the community. By so doing, it showed how the digital community is the result – and not the condition – of distributed agency.

Two further winning communities focused on user-generated contents: *dotSUB* and *Open Clothes.* dotSUB, which won an Award of Distinction in 2007, is a browser-based facility designed to create video subtitles in any language. It is based on a publicly accessible database of .sub files, while the original video can be stored everywhere online. This project’s goal is to facilitate cross-cultural communication by means of visual language. Video is seen as an agent of change: ‘video has become the creative medium of choice. It is transformative and unique. It encourages a kind of creative energy that fosters new thought and new creativity and new pathways for identifying and solving problems’ [[52]](#footnote-52).[[53]](#footnote-53)

However, in order to allow video to express its universal creative potential on a global scale, the problem of footage availability in multiple languages must be addressed. Here is where dotSUB facilities enter the chain of action by providing ‘tools that change language barriers into cultural bridges’. The project’s theory of action is explicit: ‘by putting seamless video subtitling technology into the hands of individuals, *dotSUB* tools make stories from every culture accessible to every culture, fostering intercultural experience, communication, and connection’.[[54]](#footnote-54) However, *dotSUB*’s functioning is not described in details in the submission, and the tool is described more as an intermediary that translates stories from one culture into another, than as a mediator which triggers new action. As a matter of fact, there is no reference to how the platform actually works as a means whereby the community is kept assembled.

Lastly, *Open Clothes* aims to create a network of producers, users and contractors in the garment industry.[[55]](#footnote-55) Echoing the discussion in chapters 2 and 3, this project is characterized by its decoupling of the notion of ‘community’ from any communalistic intent. Indeed, it defines its community in non-essentialist terms, as a ‘clothes production system’ involving tailors (‘those who make’ clothes), users (‘those who wear’) and professional contractors who economically support the system and extract value from it. To explain the project’s idea of community, the submission uses the metaphor of a tree: tailors constitute the trunk, users are the branches and contractors the roots:

"Open-Clothes.com" community is compared to a tree. First, wooden "trunk" is the making-clothes network of "those who make." The function of community is substantial from information exchange to work sale as if annual rings may be piled up. The network which supports activity from beginners to experts in connection with making dress as an individual is formed. Then, it is a "branch" bears (sic) fruits, the works born from the network of "those who make". "Those who wears" gathers in quest of "clothes with stories." […] Moreover, a "root" is required to suck up nutrition and send to a trunk. The cooperation with the professional contractor who become (sic) a foundation supporting activity of "those who make" is indispensable to making clothes. Then, in Open-Clothes.com, the common production system of "those who make", and "the contractors who make" is built.[[56]](#footnote-56)

The boundaries of this community are constituted by a common interest in clothes. Creating an assemblage to make and buy personalized clothes is the main goal of this project, that relies on ‘technology to make the clothes environment’ open. Despite its emphasis on technology, the account mentions technology only in terms of cause-and-effect, as one of ICT inducing the aggregation of individuals. Therefore, while showing how human actors can contribute to the making of the community, no space is left to explain how technological artefacts work, nor to describe how this assemblage is made durable.

Summing up, this chapter has focused on the role attributed to artefacts whereby groups are kept together. By so doing, it has tried to describe the theories of action underpinning the rationale of techno-social assemblages labelled as digital/online communities. It is evident that those theories of action constitute a multi-faceted landscape, and no univocal relationship between technological and social elements can be singled out. From time to time information technologies, knowledge and infrastructures can be conceived of as tools, goals, supporters. They can empower established social actors in rather deterministic accounts, they can become almost invisible tools, or they can trigger new actors themselves.

Despite this heterogeneity, the analysis suggests it is possible to identify two main types of communities. On one hand, narratives of empowerment which tend to address the relationship between digital technologies and social ties as one of cause-and-effect show a short chain of action, with few mediators and more intermediaries. Paradoxically, in these accounts ICT themselves are conceived of as ‘technological facilities’ that act as intermediaries. Such communities tend to be stabilized and appeal to administrative or statistical boundaries. The roles of Addresser and Addressee are clearly separated, and identities pre-exist to the course of action.

The other model does not deal with statistical boundaries, but rather borrows its source of identity from cultural heritage or other qualitatively defined origins. Here, both humans and artefacts can be full-blown mediators participating in the course of action. The chain that transports agency is long and extends in many directions. For similar unstable techno-social assemblages, distinguishing designers from users becomes very difficult, if not meaningless. Community boundaries blur to the point that it is difficult to distinguish an outside. At one extreme of this *continuum*, community boundaries liquefy into movements.

All in all, similar accounts show that online sociability, engagement, and eventually communal ties are only possible because of situated material entanglements. In the case of *Overmundo*, for example, human interaction is allowed by a voting platform that establishes roles, criteria, and procedures for participation. This evidence further questions sociological theory postulating the responsibility of modern artefacts in the demise of sociability and communitarian bounds (see section 4.3). More than marking the end of social and political engagement, digital artefacts mediate different types of sociability. If deterministic explanations can be found, they depend not on artefacts *per sé*, but on how their role is accounted for: either as intermediaries, or as mediators.

Finally, one limit of the previous analysis is its focus on textual accounts. Indeed, story-telling provides one possible lens to capture fleeting assemblages.[[57]](#footnote-57) At the same time, I agree that there can be other lenses, that make use of different materials. The next chapter therefore tries to make sense of techno-social assemblages by addressing different types of accounts.

1. “Noli me tangere” (“do not touch me”) was the Latin transation of the words spoken by Jesus to Mary Magdalene when she recognized him after resurrection. It is a topos in Western culture, as various paintings, novels and sculptures were so titled. [↑](#footnote-ref-1)
2. Haraway, Primate Visions. [↑](#footnote-ref-2)
3. According to the French scholar, since the list of groupings composed of social aggregates is potentially infinite, it is easier for social enquirers to substitute it with the more abstract list of the elements which are always present in controversies about groups. These elements are: 1) a spokesperson who speaks for the group existence, defines it and argues for its uniqueness; 2) some anti-groups that can be compared with the group of interest, so that its consistency may be emphasized; 3) an element that originates the group boundaries, so that they are rendered durable and taken for granted. Usually *limes* are provided by appeals to tradition, law, nature, history, freedom, etc.; 4) professionals (social scientists, journalists, statisticians) who speak for the group existence. Any account by these professionals is part of what makes a group exist or disappear. On the generative role of journalists and pollsters in making social actors (for instance the ‘public-opinion’) exist, see also E. Landowski, *La société réfléchie*, Paris: Seuil, 1989. [↑](#footnote-ref-3)
4. Latour, Reassembling the Social, pp. 30-4. [↑](#footnote-ref-4)
5. Addresser and Addressee designate the two subjects of a process of communication. They correspond to the ‘sender’ and the ‘receiver’ of Information Theory, although this latter approach does not take into consideration the dynamic constitution of the subjects of communication. See the comparison between HCI, on one side, and sociology of technology and semiotics, on the other side, in chapter 5. While according to the first approach the subjects of communication pre-exist to the interactive process, according to the second school subjectivity gets installed *through* the communicational process. I cannot account here for the immense literature dealing with subjectivity and communication from 1950s onwards. As Mattelart, *Histoire de la société de l’information*, has pointed out, this literature traces indeed the history (and controversies) of what is meant by ‘Information Society’. I thus only signal the origin of Informational Theory introducing the concepts of ‘sender’ and ‘receiver’ from a mechanical perspective in C. Shannon and W. Weaver, *A Mathematical Theory of Communication*, Urbana-Champaign, Ill.: University of Illinois Press, 1949.

   On the opposite side, post-structuralist and materialist authors have seen language as an action that transforms subjectivity *during* action*.* See for example, J. C. Coquet, *La quête du sens. Le langage en question*, Paris: PUF, 1997; L. A. Suchman, *Plans and Situated Actions: The Problem of Human-Machine Communication,* New York: Cambridge University Press, 1987; K. M. Barad, *Meeting the Universe Halfway. Quantum Physics and the Entanglement of Matter and Meaning*, Durham and London: Duke University Press, 2007. [↑](#footnote-ref-5)
6. ‘Articulation […] does not expect accounts to converge into one single version that will close the discussion… Articulations, on the other hand, may easily proliferate without ceasing to register differences. On the contrary, the more contrasts you add, the more differences and mediations you become sensible to.’ B. Latour, ‘How to Talk About the Body?: The Normative Dimension of Science Studies, in *Body & Society* 10.2–3 (2004): 210-11. [↑](#footnote-ref-6)
7. smart X tension/Tonga. Online submission, 2004. Author’s italics [↑](#footnote-ref-7)
8. smart X tension/Tonga. Online submission, 2004. [↑](#footnote-ref-8)
9. What a better definition for the term ‘stakeholder’ than ‘someone who participates in a course of action’? From the synonymy of stakeholder and mediator, the anti-democratic character of the use of this term follows. By using ‘stakeholder’, in fact, one may refer to an assemblage and still avoid making explicit who/what that assemblage in made of. Since ‘politics’ refers in half part to the procedures whereby groups are assembled and mediators legitimized to take part in that assembly, the use of the term ‘stakeholder’ relieves the one who uses it from publicly arguing who and what is to be included in that assembly. Conversely, in the Tonga.Online submission stakeholders are endowed with a list of figurations (pupils, fishermen, etc.). [↑](#footnote-ref-9)
10. It is reported as Document 2 in Annex A. [↑](#footnote-ref-10)
11. S. C. Strum, ‘Un societé complexe sans culture materérielle: Le cas des babbouins’, in B. Latour and P. Lemonnier (eds) *De la préhistoire aux missiles balistiques*, Paris: La Découverte, 1994. [↑](#footnote-ref-11)
12. See Document 3 in Annex A. [↑](#footnote-ref-12)
13. *Proyecto Cyberela – Radio Telecentros* submission, 2006. Author’s translation. [↑](#footnote-ref-13)
14. *Proyecto Cyberela – Radio Telecentros* submission, 2006. Author’s translation. [↑](#footnote-ref-14)
15. As it may be seen in Document 4 in Annex A, section ‘Objectives’. [↑](#footnote-ref-15)
16. The World Starts With Me submission, 2004. [↑](#footnote-ref-16)
17. The World Starts With Me submission, 2004. [↑](#footnote-ref-17)
18. The World Starts With Me submission, 2004. [↑](#footnote-ref-18)
19. The World Starts With Me submission, 2004. [↑](#footnote-ref-19)
20. The World Starts With Me submission, 2004. [↑](#footnote-ref-20)
21. See discussion about FSF below. Even if I cannot account here for the vast literature dealing with ICT and pedagogy, it should be noticed that the WSWM’s approach to teaching sounds close to pedagogical theories underpinning the so called ‘blended-learning’ model. The ‘socio-cultural constructivism’ paradigm, in fact, extends the insights of constructivism into ‘digital pedagogy’ and focuses on the situated, interactive and informal components of the learning process. See J. S. Bruner, *Acts of Meaning*, Cambridge, Mass.: Harvard University Press, 1990; , H. Gardner, *Frames of Mind: the Theory of Multiple Intelligences*, New York: Basic Books, 1983;

    S. Papert, Mindstorms: children, computers, and powerful ideas, New York: Basic Books, 1980; The children's machine: rethinking school in the age of the computer, New York: Basic Books, 1993. [↑](#footnote-ref-21)
22. The World Starts With Me submission, 2004. [↑](#footnote-ref-22)
23. The submission in reported in Annex A, Document 5. [↑](#footnote-ref-23)
24. *canal\*ACCESSIBLE* submission, 2006. Author’s translation. [↑](#footnote-ref-24)
25. *canal\*ACCESSIBLE* submission, 2006. Author’s translation. [↑](#footnote-ref-25)
26. The Electronic Frontier Foundation won an Award of Distinction in 2007. Its submission form is reported in Annex A, Document 6. [↑](#footnote-ref-26)
27. Electronic Frontier Foundation submission, 2007. [↑](#footnote-ref-27)
28. Richard Stallman’s Free Software Foundation won an Award of Distinction in 2005. Its entry form is reported as Document 7 in Annex A. [↑](#footnote-ref-28)
29. Free Software Foundation submission, 2005. [↑](#footnote-ref-29)
30. Telestreet was the Italian network of independent micro TV stations air-broadcasting on a neighbourhood scale. Telestreet used to integrate low- and high-tech artefacts in media making, analogue air-broadcasting (at the local level) and digital networking (for organization, footage distribution and decision-making at the national scale). Telestreet won an Award of Distinction in 2005 together with *New Global Vision*, a video archive platform initiated in 2001 during the G8 in Geneva, which used to distribute independent footage via peer-to-peer networks. Telestreet’s and NGV’s submissions are reported in Annex A (Documents 8 and 9). [↑](#footnote-ref-30)
31. ‘The Electronic Frontier Foundation was founded in July of 1990 in response to a basic threat to free expression. As part of an investigation into "hackers," the United States Secret Service seized all electronic equipment and copies of an upcoming book from a games book publisher named Steve Jackson Games, even though the business had no connection to the "hacking." When the computers were finally returned, employees noticed that all of the electronic mail that had been stored on the company's electronic bulletin board computer had been individually accessed and deleted.’ *EFF* submission, 2007. [↑](#footnote-ref-31)
32. ‘The Italian community of media-activists immediately felt the need to create a new tool to publish and share all the video materials that has been produced after those terrible days, video and images which tells other stories from mainstream media, as well as documentaries which has been censored by official TV broadcasts.’ *NGV* submission, 2005. ‘Over 60% of Italians access information exclusively through two mainstream broadcasting networks (Rai and Mediaset), which, as a consequence, have the power to mould people's imaginary. […] Thus, within such flattening of the General Intellect, mainstream television rules unchallenged.’ *Telestreet* submission, 2005. [↑](#footnote-ref-32)
33. *EFF* submission, 2007. [↑](#footnote-ref-33)
34. *EFF* submission, 2007. [↑](#footnote-ref-34)
35. *EFF* submission, 2007. [↑](#footnote-ref-35)
36. *FSF* submission, 2005. [↑](#footnote-ref-36)
37. *FSF* submission, 2005. [↑](#footnote-ref-37)
38. *FSF* submission, 2005. [↑](#footnote-ref-38)
39. *FSF* submission, 2005. [↑](#footnote-ref-39)
40. *FSF* submission, 2005. [↑](#footnote-ref-40)
41. *Telestreet* submission, 2005. [↑](#footnote-ref-41)
42. *Telestreet* submission, 2005. [↑](#footnote-ref-42)
43. ‘At the moment, Telestreet's web site presents some sections: news (where everyone can publish information regarding the mediascape, the Telestreet network, '), forum (where users can discuss about legal, technical, political, creative and organisational issues), events calendar, street TVs' database, legal and technical schedules, FAQ, Telestreet open mailing list. Moreover, some new utilities are being implemented: self-moderated discussion area and web site for every street TV (blog), integrated system for video files upload and sharing, video play list for the TVs programming, xml-developed syndication with other news portals on media-activism (Italian and international, as well), convergence between forum and mailing list, creation of local mailing lists, database for collecting and sharing videos coming from independent areas.’ *Telestreet* submission, 2005. [↑](#footnote-ref-43)
44. *Telestreet* submission, 2005. [↑](#footnote-ref-44)
45. *Telestreet* submission, 2005. [↑](#footnote-ref-45)
46. ‘The project consists of a very simple and cheap transmitter-modulator-air signal amplifier transmitting images by means of an antenna. It takes only 0,07 watts and covers a 300 meters-wide area. We have looked for a very simple technology because we want it to be accessible for as many people and groups as possible. Therefore, it is possible to set up a street television with common instruments anyone may have at home - a digital video camera, a PC, a video recorder. […] Telestreet does not occupy other television's channels, but uses what we call 'shadow cones', frequencies granted to commercial networks but unusable because of territorial obstacles.’ *Telestreet* submission, 2005. [↑](#footnote-ref-46)
47. *Overmundo*’s submission is available as Document 10 in Annex A. [↑](#footnote-ref-47)
48. *Overmundo* submission, 2007. [↑](#footnote-ref-48)
49. *Overmundo* submission, 2007. [↑](#footnote-ref-49)
50. See section 3.2. [↑](#footnote-ref-50)
51. Akrich and Latour, ‘A Summary of a Convenient Vocabulary for the Semiotics of Human and Nonhuman Assemblies’. [↑](#footnote-ref-51)
52. Available as Document 11 in Annex A. [↑](#footnote-ref-52)
53. *dotSUB* submission, 2007. [↑](#footnote-ref-53)
54. *dotSUB* submission, 2007. [↑](#footnote-ref-54)
55. Submission available as Document 12 in Annex A. [↑](#footnote-ref-55)
56. *Open Clothes* submission, 2004. [↑](#footnote-ref-56)
57. Haraway, Primate Visions. [↑](#footnote-ref-57)