



When you first open a Pd document like this one, your cursor will be an arrow. Select "edit mode" in the Edit menu and the cursor will change to the image of a hand. The patch is now in edit mode. You can move any object by dragging it.

Select "Edit mode" again in the Edit menu and you're back to the arrow cursor which acts on objects without moving them.

In Edit mode, if you click on a message, object, or comment, you can then retype the text. For objects this will create a new object and delete the old one. Pd will try to reconnect the newly created object in the same way as the old one.

When you're done changing the contents of the box, click outside the box to deselect it. This tells Pd to incorporate the new text.

You can create new objects by duplicating existing ones using the "duplicate" menu item. You can also "cut" and "paste" them. If you duplicate several connected objects the connections will be replicated too.

Edit mode also lets you make and break connections between objects. Put the "hand" cursor over a line connecting two objects: it turns into an X. Clicking will delete the connection. Hold the cursor over an outlet and it becomes a circle (a patch point). Drag to any box and release; you will be connected to the nearest inlet.

The "put" menu creates new text items of any of the four types. You can also put a "symbol" box, analogous to a number box but for showing and entering text strings.

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Media Environments as Cultural Practices: Open Source Communities, Art and Computer Games

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“Media and media techniques are not simply given mediators or cultural techniques to be taken for granted, but nor are they brilliant or obscure inventions. They are systematically developed formations of persons, artifacts, operating instructions and spaces of possibility, which are positioned at very specific discourse points and produced in complex circumstances of cultural exchange. They indicate the extent to which media and technology are culturally coded, the degree to which every technical or technology-based development is tied to processes of its discursivization and culturalization.”¹

Developments in the area of the collective production of software can thus be described, beyond their possibly subversive or radical position within the framework of techno-economic discourses, primarily as a formation of the interlocking of technology, economy, and socio-cultural fields. Under the presupposition that not only technological practices are involved, these developments can also be regarded as a form of culturalizing technology as a whole, a form of culturalization that possibly reveals conjunctions with completely different discourses that are not necessarily recognizable as articulations of interlinking practices [Stuart Hall]. These discourses include specific artistic positions on the one hand, and on the other a formation from the entertainment industry, namely computer games.

What the process of a – possibly – new type of production environment for technical developments involves is always also the establishment of new technologies; this process can also be described as the attempt by social actors to specifically “domesticate” technology, i.e. through appropriation and revision. It is neither coincidental nor unintentional that we touch here upon debates from cultural studies. Using numerous examples from mass media, cultural studies have shown that consumption, which in our case is the use and application of media for specific purposes, i.e., as Vilém Flusser would say, the production of improbable and thus, in the narrow sense, informative software applications, is hardly ever to be imagined as a passive operation of being subjected to power or ideology, but is instead, in almost every case, to be regarded as a form of appropriation, re-interpretation and recontextualization. In this sense, we are not in danger of speaking of a media usage that makes media look like tools that can be arbitrarily switched on or put aside. Television would not cease to be a mass medium, if all the viewers were to turn their TV sets off. “Domestication” is hence not intended to signify a trivialization with regard to apparatuses; instead it is much more a matter of the processes of integration in social and cultural operations. It is through these processes – which are simultaneously microsocial and global – of a functional adaptation of media-technical operations

¹ Dirk Spreen, “Die Diskursstelle der Medien”, in: Andreas Lösch et al. (Ed.), *Technologien als Diskurse. Konstruktion von Wissen, Medien und Körpern*, Heidelberg: Synchron Verlag 2001, pp. 21-40, p. 37.

that technology first becomes a form of cultural technique, in other words a social technique that includes a mechanism of identity at the same time. This circumstance has been characterized for television with the term “couch potato”; now it must be reformulated with regard to the way social subjects are permanently hooked up with the mobile telephone and/or MP3-player – yet in light of the increasing number of wireless-LAN hotspots, there is hardly anything left that could become a “potato”. Nevertheless, it would be inadequate to describe this development solely in terms of optimization, miniaturization (hence as a new teleology of technology): instead, the “disappearance” of the apparatuses indicates specifically the situation that technology is to be understood more as a practice than as a formation of apparatuses. Thus it seems far more interesting to observe a phenomenon such as Open Source from this perspective, which queries it in its conjunction with other media practices, thus leaving the stage of discussions of code, licensing procedures or even something like software art.

In comparison, for instance, with the emphasis of Friedrich Kittler and his followers on the materiality of the discourses, i.e. the invocation of the subject inscribed in the circuitry by technology, so to speak, turning in this way to a quasi cross-platform questioning of the adaptation of a certain practice coupled with the technologies stresses specifically the role of these subjects as actors, emphasizing their capacity for taking action even in light of a world of apparatuses and media firmly sealed by micro- and nano technologies: indeed there are black boxes everywhere you look. Yet it must at least be presumed that the social has always preceded the technological, that there must have always been a place of discourse for the technological in the social already, before it was able to develop its materiality of the technological discourse. “It is not a matter of our adaptation to a new technological environment, but rather of the insight that this technology is our adaptation already.”² However, this idea of technology as a permanent process of reworking the environment does not subordinate us to the electronic circuits, but instead views the conception of these circuits as a form of cultural practice that transgresses the technological. “The idea of mobilizing and reproducing the whole of society by means of media strategies, the notion of the social as a functional relational arrangement and the exploration of the relationship of individual bodies and mediation through the media already existed in the early 19th century. Thus these problematizations cannot be merely an effect of technical developments. The media become a problem, before the technical structures and apparative arrangements appear, in reference to which this problem is discussed today. There is a place of discourse in media that is interwoven with political and economic discourses, which is not the consequence of new technologies, but which precedes their emergence. [...] Modernity’s understanding of media is first of all a discourse.”³

From this perspective it must be assumed that new media technologies must first be inserted in cultural discourse points that have always already been there, in order to be socially and culturally relevant. The appearance of new media is thus always accompanied by discourses and

² Steven Shapiro, *Doom Patrols. Streifzüge durch die Postmoderne*, Bollmann: Mannheim 1997, p. 98.

³ Dirk Spreen, op. cit.

practices that assign it a cultural location in society. It is first through this insertion into discourse points, a process of implementation that makes it possible to become socially and culturally relevant, that media technologies emerge as cultural techniques that shape and remodel the idea and the form of communication, knowledge, experience, etc. Starting first from this cultural location that is imaginable in the interlocking of subject, society and the technological without having to ascribe a primacy to one of these “components”, the technical modes of social relationships arise, from the telephone to television all the way to chatrooms or MMORPGs – and computer games/video games/online games especially exemplify these kinds of technical modes of social relationships, once one is prepared to move beyond violence debates and look more closely at the exact parameters and coordinates of these very specific media practices.

The historical example of the telephone may be used to exemplify a reconstruction of this process of the interlocking of culture and technology. The interplay between the way the body is mechanized and functionalized and the way the technology works, which this idea produces at the same time as it is realized by it, cannot be subsequently separated from one another. In order to successfully realize the idea of a technology related to the body, the body must first be regarded as something accessible to technology, something that can be divided up into components, so to speak, which can be subjected to technical appropriation and recording; the question that arises is whether technology subordinates or extends the body, as McLuhan suggested. We expand on this idea of extension by imagining the body as a collective body and technology as a form of mediation between and within this collective. Even the notion of a mechanized or electronified body by itself, a body that is accessible to the structural analysis of technological processes, is not capable of explaining the emergence of techniques, which aim to socially interconnect these bodies (such as the telephone), which are always more than mere physiological, mechanical, electrical phenomena: namely cultural subjects, social individuals, collective identities. This is the point where the telephone comes in as a cultural technique: not in the translation of sound waves into electronic impulses, but in the technological coupling of subjects as communicative, in the idea of a society whose complexity, speed vectors and production conditions make it necessary to establish a technology as a cultural technique, to save the societal, so to speak, to maintain the idea of a collective social body, which thus increasingly becomes a collective media body, as Christina von Braun called it, but one which can be set for permanence solely through this implementation of a technological operator.

And – to take a daring step into the present – a paradigm that stabilizes the bodies in their sovereignty with respect to the medium has become established in the same way in the area of multiplayer games. The challenge does not necessarily consist in playing against the AI of the game, but in playing against the other co-players qua interface, which is naturally to be understood as a technological interface: as the example of the telephone was intended to illustrate, new technologies emerge in interplay with a technologization of the body/subject, although this does not yet imply its subjugation. Cultural technologies emerge, however, at a different interface with society: not in the laboratory of the genetic engineers, to put it metaphorically, but in the practices of the plastic surgeons, not in Edison’s laboratory but in the distribution offices of Activision and Electronic Arts.

“With their institutionalized technical and symbolic arrangements, writing, printing, telegraphy and television make certain forms of communication and perception obligatory and thus create unequivocal preconditions for politics and commerce, for mentality and subjectivity. Media are called ‘cultural technologies’ in this sense: they create and delimit the space of possibility of cultural forms.”⁴ Yet the places of discourse, which are at the beginning of the space of possibility, do not mean mediasupported communication, virtual reality or similar phantasms, in other words the frequently invoked new modes of interconnecting subject / body and environment that turns them into circuitry moments in the network of Internet³, but rather the utopias of control and steering, rooted in the idea of a potential technicity of the body. These are phantasms of cultural conditions of domination that culminated in modernism, yet reach far back to the beginnings of the Enlightenment – the idea of the subjugation, the appropriation, the recording and systematization of nature, and also the idea of a linear temporal development as the foundation for historicity. These are the coordinates that prepare the field of the cultural for the implementation of technologies, which undoubtedly always also represent technologies of power. Within the framework of this preparation it first becomes possible to more precisely specify terms like communication, collaboration, participation, but also mediality or technicity. Especially the concept of communication that can be found running from the telephone to the online chat like a red thread of technology-supported socio-cultural interaction then proves to be a form of maintaining the social under media conditions. For no state can be imagined, in which the subject could be described solely with a machine: there are always all the other subjects there with their machines as well, turning this situation into a collectivized practice in light of the machine, but also in light of the social as a whole. As the action of an isolated and thus medially individuated subject, this disposition would be simply meaningless.

If we talk about a technicity of culture, then we must also talk about about a culturalization of the technical. However, this culturalization does not only reveal itself in an exemplary way in the form of Open Source communities, i.e. in exhausting productivity within the framework of collaborative, not primarily economic technical development, in the area of highly technically supported developer communities. Instead it appears much earlier, as indicated above, in the area of artistic media practices and, at the other end of the scale of possible media practices, in the area of computer games.

In a project such as “The World in 24 Hours”, organized by Robert Adrian X at Ars Electronica 1982, technology-supported communication, the “electronic space” as a space of action and interaction, is taken over to investigate new aspects and dimensions of the exchange relationships of increasingly complex societies using machines. Since media claim to mediate between individuals, groups and interests as an interface and to regulate them, to a certain extent they replace functions of a lost public sphere. Media-immanent “art” work consistently transforms itself through the stage of systemimmanence into an ultimately social immanence, if it does

⁴ Markus Stauff, “Medientechnologien in Auflösung: Dispositive und diskursive Mechanismen von Fernsehen”, in: *Technologien als Diskurse*, op. cit., p. 81-100, p. 83.

not merely occupy communication channels, but regards them as a new type of cultural space, in which differences, conflicts, contradictions and various models of representation are negotiated. The question of art is thus turned around into a question of cultural hierarchies and orders, possibly supplying, negotiating or rejecting proposals for cultural concepts. Another project in which Robert Adrian X was centrally involved was ARTEX (Artists' Electronic Exchange Program), which was implemented in 1980/81 for the commercial network "I.P. Sharp APL Network", existed until 1990, and was one of the first mail programs in the world regularly used by artists. ARTEX thus enabled the use of this new production form of distributed authorship, which was simultaneously a new form of communicatively oriented cooperation, as a permanent experimental "space" in the framework of artistic practices for the first time.

"Organizing worldwide communication projects with the help of airmail and telephone proved to be increasingly problematic, so in the summer of 1980 Bill Bartlett and I started putting pressure on IPSA to convince this company to develop a cheap and user-friendly email program for users that don't belong to any company or institution, but operate as individuals from their studios."⁵ The result was ARTBOX, developed by Gottfried Bach, a simple and economical version of the IPSA "Mailbox". The ARTBOX underwent a series of changes, until it was defined in 1983 as ARTEX: the "Artists' Electronic Exchange Program" – a "user group" in the IPSA network. "FidoNet", developed by Tom Jennings, also reached its first peak around 1985. As Jennings wrote about it: "A computer bulletin board (BBS) is in fact a collection of social conventions encoded in software, each a microscopic 'internet' of dozens of hundreds of people, hundreds of downloadable files. In fact a lot of internet terminology ('download') in fact are BBS paradigms and words."⁶ Apart from the fact that Jennings here refers to an important genealogy of the Internet that is rarely mentioned in the conventional representation of its military origins, the perspective of software as a form of coding social conventions seems especially noteworthy in the present context. Media techniques do not become established because they have become technically possible, but because cultural practices make them appear necessary.

Yet is it not only artistic media practices that can be described as this form of culturalizing technology, the same could also be said for computer games (apart from the fact that they also share a common history with Open Source developments: the title "Doom", introduced in 1993, was released in 1999 under a GNU GP License; "Quake", also put on the market by id-Software in 1996, was the starting point for the "mod" scene, i.e. game modifications written by users and made available to the community for downloading – just to mention two of the most well known games).

⁵ Robert Adrian X, "Kunst und Telekommunikation 1979–1986: Die Pionierzeit", in *springerin* 1/1995, p. 10–11, p. 10.

⁶ Paul Jennings, cf. Reinhard Braun, "One has to slide off into some other territory", in *Kunsthalle Wien* (Ed.), Robert Adrian X, Folio: Vienna 2001, p. 90–122, p. 112.

Computer games undoubtedly engage in the emergence of social competencies; they offer new forms of spaces of action and ideas of reality – yet they also promote a perception of reality that makes it appear largely formable and without consequences. Computer games have the potential to create new forms of communities and enable new forms of distributing knowledge. New types of self-images and ways of living are negotiated within gaming culture. At the same time, as subjects the players also submit to specific moral and institutional codes and norms – and these must be mastered in order to succeed. Computer games thus exemplify the contradictions inherent to the emergence of cultural meanings in the field of tension between conformity and dissidence under media conditions. Collective gaming environments exemplify post-territorial, translocal communities, whose identity concept oscillates between disciplining and uncontrollability – a collaboration that is both real and unreal at the same time among individuals, whose status appears to follow different virtual and real regulations.

Already starting with the form of television and the remote control, intensifying with the mouse and becoming almost radically manifest in the immersive presence of computer games, how we think of the media, of the world, of things and of the self is conditioned by the media to selectivity, contingency and alternatives. The concept of contingency is especially important here, as it indicates the unmistakable potential especially of collectively and collaboratively defined media environments, yet not only media environments, but also and especially the socially defined environments that are linked to media: with the intervention of everyone else in multi-user environments, with the contributions from everyone else, every story can always end differently. The successful computer games are not the ones based on striving for high scores, but those which, as open spaces of action, empower players to play the game differently each time, thus redefining it, in a sense, each time. Computer games increasingly conceive of players as culturally competent actors and afford them a high measure of possibilities for action within multiple plots.

And finally, both production environments, as they are imagined for the creation of Open Source software or GP Licenses, and what has been outlined here as collaborative artistic media practices point in the direction of a relatively new and specific concept of production itself, less in the sense of an anti-economic or post-economic concept, but rather – possibly – in the sense of a production form that moves outside the realm of these two poles: then producing something no longer means making something new, whether in teamwork or virtually from nothing as a *creatio ex nihilo*, but instead understanding the production concept itself as the use of something that one has specifically *not* produced, but which we can still, within the framework of this use, in accessing and appropriating it, at once change, undermine, reinforce, reorganize or even completely reject. What is involved here are a new kind of spaces of possibility, in which no more sharp boundaries are drawn between production and consumption, and in which the distinctions between innovation and appropriation are blurred. This means that we can generally not respond to concepts such as production, development, consumption, entertainment, etc., without knowing in terms of which social community or society the question is to be answered. In each case we arrive at statements about the role or function that something plays or assumes within a communicative and thus always new collaborative practice of this society at a certain time.

However, these spaces of possibility first emerge in a complex interplay of cultural exchange conditions, in which ideas about bodies, apparatuses, technology, society, communication, the social, the public sphere, competition and much more are inscribed. Each successful realization of a possibly new disposition of the interconnection of these components (as in the case of cinema or computer games) follows a form of collaboration, which is not only to be understood as a media environment, but is to be described as a simultaneous and especially also as a collective cultural practice. This in turn means that the production environments and conditions of phenomena such as Open Source are possibly not all that new, but that they may hopefully continue the success story of collaborative production environments as a culturalization of the technical and technology.