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Petra Wodtke is currently research coordinator at the Berliner Antike-Kolleg, and involved in the BMBF-Project "Foto-Objekte" at the Staatliche Museen zu Berlin, Antikensammlung. Address for Correspondence: Berliner Antike-Kolleg, RCAS, Geschwister-Scholl-Straße 6, 10117 Berlin. Email: petra.wodtke@berliner-antike-kolleg.de

□ Notes for an ecological archaeology of imaginary media hacking

■ Alberto Micali

Lincoln School of Film and Media, University of Lincoln
alberto.micali@gmail.com

If dreams and utopias are accepted as legitimate and "real" elements of culture, they also have broader historical validity, for they give form to desires that have guided and inspired the development of media technology for hundreds and perhaps thousands of years. (Huhtamo 2010, 35)

Anonymous and the Hacking of Local Struggles

From the end of 2010, a series of socio-political struggles and uprisings occurred in North Africa. Although celebrated in the public sphere as "the Arab Spring", the struggles took a different form in each country, reflecting specific histories, economic conditions, authoritarian political structures and social compositions. However, across

all the protests a common trait emerged, although it has often been overemphasized: this was the widespread use of media technologies to disseminate information, and to coordinate and activate large segments of the population. Several scholars have recognized the crucial role played by networked media for the mobilization of citizens in local demonstrations, within a context of the constant expansion of internet connectivity and media technologies (Castells 2012; Gerbaudo 2012; Howard and Hussain 2013).

Many of the digital campaigns in support of mobilizations were promoted under the moniker of “Anonymous”. Two examples, known as “Operation Tunisia” and “Operation Egypt”, consisted of a series of digital direct actions that made use of a large repertoire of digital “weapons”: in the face of repression from local authorities, these included defacements of government web pages, releases of leaked information regarding corruption within the main national institutions, and mass digital strikes in the form of DDoS attacks (again against government-related websites).¹ Moreover, “hacktivists” propped up and sustained local protesters with technological support, facilitating the circumvention of internet censorship and other obstacles that would otherwise have led to the almost-total shutdown of digital networking connections, as happened in Egypt.²

During OpTunisia, in addition to “conventional” software tools to bypass connection limits, a very basic script was also distributed, that allowed local activists to block government phishing attempts through the use of malicious code that collected data and spied on citizens’ communications.³ For OpEgypt, Anonymous (in collaboration with Telecomix)⁴ attempted first to restore local connections via analog telephone modem routing, and then issued a digital pamphlet in Arabic titled *How to Protest Intelligently*.⁵ The efforts were crucially directed at “infrastructural” support to enable citizens to materially restore connectivity, evade electronic surveillance and circumvent on-line censorship in response to the blocks imposed by authorities (Beccaria 2012; Olson 2012; Coleman 2014).

In the history of Anonymous, these two operations are widely recognized as turning points, as direct technological support was aligned to the more disruptive character of the *hacktions*⁶ deployed in these and previous operations. These hacking strategies,

1. A Distributed Denial-of-Service attack is an overload of connections that makes a certain resource unavailable to users. Although it is considered a criminal activity in several jurisdictions, it is related to the same material capacity as mediation. Because of its short- and long-term effects, a similar technique has been used widely for political protests.
2. In Egypt, mobile phones and Blackberry networks were also blocked and, according to Castells (2012), the turning off of the internet affected 93% of the population, leaving out only some academic institutions.
3. The anti-phishing code was a script to be used with “greasemonkey”, an add-on extension available for the Firefox browser.
4. Telecomix is a disorganised cluster of net-activists.
5. The pamphlet is not simply focused on on-line communication, and is concerned with a wide series of precautions for protests. It can be found easily, and is freely available on the internet.
6. Inspired by Samuel (2004), I define politically-oriented digital actions as *hacktions*. This conceptually comes from the “hack”, sharing originality, creative invention, and a certain refusal of constraint. However, this networked media action can be thought of as the political “deterritorialization” of the hack that, instead of reaching points of high efficiency (as happens with exploits discovered to correct the holes of a system), points towards a “reterritorialized” deficiency (disruption, dysfunction, disturbance etc.). The case of political coding is in this sense a very borderline one, but the concept has been developed to impede any conceptual limitation, while enabling a potential with a tendency to unlimited “machinic” relations.

which equip physical mobilizations with technological support, have been read in the literature as a “digitally correct” form of hacktivism, and defined as “the political application of hacking to the infrastructure of cyberspace” (Jordan and Taylor 2004, 69). The particular “techno-aid” of the Texas-based hacking group The Cult of the Dead Cow (cDc) has been studied as one clear example of this trend of hacktivism, being directed “to assist [...] non-governmental organizations, social justice groups and human rights entities in the use of advanced information technologies for the furtherance of their works” (Hacktismo 2003). Therefore, a similar way of employing hacking skills can be inscribed within a genealogical lineage, which practically and conceptually links the help guaranteed to overcome the limits of connectivity (in the two cases mentioned above) to a recent past of software development for social and political issues.

My suggestion is to expand these genealogical lineages beyond the strict computational field, pushing forward some theoretical assumptions developed in the field of media archaeology. Thinking media archaeologically means to investigate contemporary media cultures employing visions, knowledge(s) and experimentations coming out of the past, while also taking into consideration weird and not-fully realized apparatuses, practices or inventions. This allows studying contemporary network cultures at a practical and theoretical level beyond the specificity of networked digital media. In fact, with media archaeologies—because of the relevancy given to materiality and time—these cultures appear as stratified, allowing novel re-discoveries of technologies from the past in parallel with the growing obsolescence of present ones (Parikka 2012). In this sense, media archaeologies posit critical relevance on the linear celebration of the progression of human–technological assemblages.

In addition, I would like to explore similar non-linear historical paths by implying an ecological thought, which is able to posit questions of “relationality” between the overlapped planes of scalar mediation involved in this speculative suggestion.⁷ On the one hand, media archaeology points towards the “demythification” of the newness of contemporary media forms, permitting the reconnection to a past into which these are necessarily inscribed. On the other, a similar approach, assembled with media ecological questioning, demonstrates how media act outside the strict field of communication, operating through broader ecologies of mediation—pushing the boundaries of its strict humanist understanding. With the archaeological approach, media ecologies share the necessity for “qualitative”, more than “quantitative”, readings of media forms and processes. Moreover, ecological thought equally posits attention to media materialities, assuming a relational dimension into which these are directly intertwined with psychic and social ecologies. In particular, within the latter, media practices (in their material capacity of intervention) can play a crucial micropolitical function that is able to activate novel processes of subjectification (Guattari 2000 [1989]). My aim is to link the introduced technological assistance of Anonymous to another, un-realized “hacking” desire for political support, through a non-linear mapping of ontogenetic imaginaries.

7. The definition of “ecological” to which I refer is a recent and not fully developed approach in media studies. This differentiates from the Toronto School-inspired field of media ecology, by having a crucial reference in the “ecosophical” approach of Félix Guattari (1995a [1992], 2000 [1989]).

Opening Ontogenetic Lines: Imaginary Archaeological Desires beyond the Computational

It is at the intersection of heterogeneous machinic Universes, of different dimensions and with unfamiliar ontological textures, radical innovations and once forgotten, then reactivated, ancestral machinic lines, that the movement of history singularises itself. (Guattari 1995a [1992]: 41)

First of all, it is crucial to recognize “hacking” as a matter not strictly related to computation. Despite the widespread image of hacking as a mischievous criminal computing activity, or, in contrast, as primarily an aspect of technology (Jordan 2008), several researchers have highlighted how hacking relates to basic curiosity and intellectual challenges (Gubitosa 2007; Paccagnella 2010). Hacking is a matter of knowledge actualized through a “hands-on” attitude; it is the material application of the key elements of forms of inventive abstraction. The desire to find opportunities for original applications, with the view to overcoming limitations, thus finds contemporary expression in the field of computation. In fact, going further within a conceptual excavation, this can be reconnected to a pre-modern and pre-industrial past, as the “ancient” meaning of the word reveals. The verb “to hack” in fact referred to the action of cutting properly in arboriculture, which later came to characterize the agent, the *hacker* (see Kennedy 2015; and any English dictionary). Hacking was, and still is, a creative disruption, a form of applied knowledge to a material “tinkering” capable of pushing existing boundaries beyond their singular actuality (an abstractive potency, as Wark [2004] might suggest).

Accepting hacking as a matter not exclusively related to computing calls attention also to the elements of “alterity” of a specific technological machine outside its strict “singularization” and its sole, actual manifestation. Surely, a small piece of code, like the script developed to help Tunisian activists bypassing governmental control, is not a complex output of *techné*. However, this (as well as the related “infrastructural” support observed) equally involves a whole field of micropolitical desires, which are actualized—in this case—in specific coding assemblages. These assemblages can be defined as kinds of “machines of technical help”, parts of a broader machinic system while also intertwined with other systems not strictly technological, such as the social or political machines of struggle. Here, with the aim of comprehending a similar field and its interrelations within specific technological expressions, I propose to follow the heretic ontological “machinism” of Félix Guattari (1995a [1992], 1995b [1993]), who suggested positing the question of technology (in the materiality of technological apparatuses) under a broader machinic one. This is a heterogeneous and transversal plane able to constantly differentiate according to emerging relations that “existentialize” the specific technological machine.

Guattari suggests technological machines can be mapped via two different axes: one of alterity, corresponding to the opening of the technological machine towards the external, and one of consistency, towards its internal.⁸ Relations towards the outside can be

8. In positing these rhizomatic axes Guattari was inspired by the work of biologists Maturana and Varela (1980 [1972]), and his work is especially an attempt to broaden autopoietic and allopoietic processes towards heterogeneous ontological machines (not strictly technological). It is also

considered through ontogenetic elements, which are the pre-individualized meta-stable “components” that will coalesce into the existentialized singularity of the technological machine. Between these, there are, for instance the elements of the plan—the social or economic conditions implying these technologies or a certain set of instructions or knowledge. These are all ontogenetic constituents that allow the technological machine to be conceptually opened to its externality, to think about this “ecologically”, which means through its scalar “relationality” with other plural machinic systems. This happens, for instance, with the material components, which are deterritorialized and reterritorialized; an example is the minerals that will become a computational microchip, and that subsequently can be traced down to the extractive machine and a whole series of other machinic relations (of labour exploitation, of human dominance over “inert” matter, of the economic flows driving the extraction, etc.). However, within the ontogenesis of technological machines I suggest that desires have to also be located, and with these their peculiar “micro-politics”. This is the capacity of activating a certain affective and molecular order able to mobilize social and political machines—with or without the mediation of specific technologies—and therefore entering into relation with other machinic systems.

Guattari adds that the phylogenetic element of the internal axis involves the sequencing of different generations of the same technological machine (such as the case of the various releases of the same software in the context of code development). But it is on the first axis that I would like to focus further. The desiring micropolitics—which activate these *hacktivist machines of technological support*, as happened with the wish to help Egyptian protesters to communicate—can be excavated through a concept developed in the field of media archaeology. This is the idea of *imaginary media*, a concept directly concerning desire, and its cultural and affective forces. Moreover, this axis of intensive order, being directed towards the external, is also the one capable of opening ontogenesis to a wide field of pure potentialities. It has the potential capacities of “machinizing” with virtual forces that have yet to come, forces that can emerge and singularize as forces of disruptive, as well as revolutionary, mediation.

[T]he history of media technologies does not comprise only those inventions and ideas that materialised as actual, commercially marketed artifacts or as institutional systems of communication, but also those dreams and visions that existed but were never “realized”. (Huhtamo, 2010: 34)

Imaginary media is a research topic that has emerged within media archaeology. This points towards the study of unattainable media histories, of past conceptualizations of impracticable and unviable technologies. As Parikka describes it, the field of imaginary media “is something you do not always find in basic media studies textbooks: media that are the stuff of dreams and nightmares, at times existing only in the minds of inventors or science-fiction writers” (Parikka 2012, 44). Therefore, similar technologies of media-tion many a time lie only in the dreams of their conceivers.

In his reading of imaginary media, Kluitenberg (2006, 2011) directly links the study of this archaeological theme to the social production of “impossible desires” (2011, 48).

possible to notice the influence of Gilbert Simondon (1924–1989), a reference that is not explicit in the work of Guattari.

According to a similar suggestion, these media are not a simple result of imagination, involving opportunities to explore the unconscious of contemporary media cultures. Within a similar perspective, understanding desires also becomes central to understanding the actualization of the media apparatuses concretely realized. For Lacan (1901–1981), the imaginary is a decisive step for the unification of the subject, which reaches its coherence under a unifying law. Within a perspective based on lack, as the fulfilment of desires happens by filling the open gap, the actualization of concrete media apparatuses guarantees the satisfaction of desire—it is this lack that pushes towards the realization of impossible mediations.

Summarizing these theoretical lines, Parikka (2012) underlines how imaginary media in relation to desires and the unconscious can also be posited within a non-Lacanian perspective. Therefore, in accordance with this, I propose to read imaginary media in their relation with forces of desire in Deleuzo-Guattarian terms. Instead of being inscribed on lack and regulated by the Oedipal law, desire is an immanent productive force, capable of creating connections (as a machine) and bodily affections by operating on a molecular field. The desiring drives are here a force of productive creation, an affirmative vitalist potency able to act in the micropolitics of a molecular field. Desire has the potential to transform—the will of novel powerful affectivities—by continually machinizing with heterogeneous components (media forms as well as political, imaginary, familiar, etc). However, it is worth noting that this potency can also close into itself, conducting regressions and fascisms (Deleuze and Guattari 1983 [1972]; Guattari and Rolnik 2007 [1986]).

Since this imaginary is directed towards a field of potentials—not yet structuralized—the concept of imaginary media can be proposed beyond the phenomenological threshold and thought of as the “non-human side of technical media”, following Parikka (2012, 62). Therefore, it is on this molecularity— affective and non-(strictly)human, material and vital—that the micropolitical capabilities of hacktivist media machines have to be comprehended. In this direction, the imaginary micropolitics of hacking can be tracked down—or better mapped—precisely thanks to the introduced ontogenetic lineages. Hence, the “alterity” of similar “onto-archaeological” lines allows us to move this speculative reflection from the few technological solutions developed to circumvent the authoritarian control of communication, towards other machinic assemblages. These can be hypothetical technologies of support never actualized, perhaps distant in terms of material relations or times, but equally crucial into activating a desiring molecularity, a certain culture of imaginary media hacking.

Provisional Observations, or the Eco-Political Case of “Walnut-Shell Boats”: Hacking Media outside Representational Mediation

According to the data collected by “Fortress Europe”—an observatory on immigration tragedies in the Mediterranean—between 1988 and 2014 at least 21,439 people died attempting to cross into Europe by sea. The highest numbers—8,902 in 1988, 7,065 in 1994, five per day in 2011—occurred on the routes between North Africa and Italy, in the strip of sea known as the Strait of Sicily (*Canale di Sicilia*). Here, shipwrecks are a regular occurrence and the observatory collects multiple data on these to study migratory

mobility, the politics of patrolling borders, and the geographic “states of exception” in relation to human rights at borders (Del Grande 2014).⁹

This is an extremely complex socio-political issue, which involves also historical, economic and legislative aspects. Following a Guattarian vocabulary, it is possible to say that several machines intertwine in complex relational ecologies: desiring machines (undertaking hopeless travels, in relation for instance to war machines), political-legal machines (activating push-back and detention measures), historical-ideological machines (superseding a colonial past built on the exploitation of African populations and lands), criminal-capitalist machines (profiting on human trafficking and cheap black-market labour), etc. Within a similar ecological context, technological machines are crucially also at stake—or “in the middle”—in their (in)consistent materiality. In fact, very often the nautical apparatuses employed to take to the sea are not materially suitable for this kind of journey, and the overloaded motorboats and rubber dinghies are often abandoned by the crews during sea crossings with little chance of reaching the coast. But there are also resistant machines, assembling radical political desires to potential perspectives on emancipation and autonomy.

In fact, the possibility of reaching the south of Italy via sea routes was, and still is, a central issue for social movements and networks of cooperation, with daily struggles against the measures implemented by Italian governments over the years, which strengthened repression and led to increases in criminality. During the 1990s, a southern Italian network highlighting the exploitative logics of capitalism in the region was also operative in the southern Mediterranean area. Organized around many movements and associations, the network conducted several field studies relating to social and economic questions in the local territories. These studies were inspired by Autonomist ideas, such as the impossibility of separating theory and praxis, and were centred on several problems: from the collective study of work conditions and the transformation of labour processes, to the exploitation of workforce and land, moving through connections between local institutions and criminality. The aim was to create novel opportunities for social struggles and to offer political proposals to act outside the capitalist relation, through cooperation and self-determination. Furthermore, the collectives working within the network were also involved in correlating social problems, including questions of human movement across the Mediterranean basin.¹⁰

Pushing forward my speculative excavation, another hacking machine for technological support can be (re-)discovered within the introduced onto-archaeological lineage. However, this machine is a technology only hypothesized and sketched, but never really actualized, because of the specific material condition of its conception. Instead of bridging connections to allow communications, this imaginary media was conceived

9. The observatory was founded in 2006 through the work of the writer and journalist Gabriele del Grande, who aimed to re-humanize the unknown deaths of the people travelling across the Mediterranean by narrating their unique histories.

10. Part of the activity of the network (in the form of projects, documents and researching outputs) is still available at www.ecn.org/OM/index.htm. As happens with similar field studies and researches, the outputs were less oriented to publicity and more to the self-awareness and collective action of the members of the network. However, the discussion is here mostly based on face-to-face and mail interviews I conducted over a month with members who used to be involved in the network.

as a physical mediating machine for people intending to travel from the coasts of North Africa to Europe, avoiding repressive limitations and the criminal trafficking established on those maritime routes.

In fact, within the political network mentioned above, a group of political hackers—or imaginary tinkers—imagined a series of small nautical machines, with the aim of reflecting on the possibility of offering direct technical aid to refugees emigrating to Europe via the Strait of Sicily and the southern coasts of the island. Stimulated by a “hands-on”, tinkering attitude, their idea was to collectively construct these tiny boats to allow the Mediterranean to be crossed with fewer risks. Moreover, a hacking disposition was equally evident in the desire to “overcome” the authoritarian limitations of police patrols and the capitalist market of criminal human slavery, by this abstracting media technology.

The boats were envisioned as a form of “nutshell”, and their dimension was not to be bigger than those of local fishermen’s boats. Using a self-floating mechanism, this unusual ergonomic shape had to guarantee stability, in order to reduce the chance of capsizing and to minimize the potential for shipwrecks. In addition, studies on materials were used to reduce risk through the use of special floating substances in the construction phase, and, taking advantage of in-depth local studies of currents, tides, and meteorological conditions in the strait (air temperature, atmospheric humidity and pressure, winds etc.), the small boats would be able to be steered by people lacking any nautical knowledge. Finally, with the implementation of telematic networks, the idea was to coordinate and support navigation by checking timescales and directions while being in touch with associations and political grassroots groups operating on the other side of the sea.

The envisioned “nutshell” boats implied a whole series of media–ecological relations beyond the strict field of communication. These resistant imagined machines could hack materials, dreams, hopes and affects for revolutionary socio-political futures. Here, human migratory flows move within channels like sea waves, intertwining with the intensive energies of winds and currents. Knowledge and information flows were implicated too, singularizing accurate “algorithmic” nautical mediating machines able to erupt in a future outside history without borders and limitations.

According to the *variantological* multiplication of what can be considered a medium, as offered by Zielinski, these imaginary technologies are media in a broader sense. In fact, “[m]edia are spaces of action for constructed attempts to connect what is separated” (Zielinski 2006: 7). Therefore, more than unrealized actual apparatuses, media machines are here the desiring forces that offer a possibility of transit, the will to connect two sides of the same sea and their cultural and imaginary potentials. These desiring machines for technical support can be linked by onto-archaeological lineages to those coded by hacking groups during North African social struggles. In fact, even though their actual implementation failed for obvious reasons—dictated by the socio-historical conditions more than by the desires of their inventors—their speculative ontogenetic mapping reveals a similar micropolitical desiring force that continually re-emerges and re-actualises within the non-linear lineages of history and through heterogeneous machines of mediation.

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Alberto Micali is a PhD candidate in Media and Cultural Studies at the Department of Film and Media of the University of Lincoln (UK). His research focuses on hacker culture, political activism and media ecological forms of resistance. Address for correspondence: Lincoln School of Film & Media, University of Lincoln, Brayford Pool, Lincoln LN6 7TS, UK. Email: alberto.micali@gmail.com