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NETWORKS OF CARE

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The Paradox of Digital Sustainability

Since the advent of digital technology, cultural heritage has been produced, stored and preserved in digital form by cultural producers and heritage institutions. This has resulted in a large body of what is called "digital heritage." Digital heritage – whether singular, born-digital art projects or large-scale digital humanities projects – is constructed of different technical layers and is characterised by multiple human and machine processes. Consequently, its continuation, and thus preservation as the activity by which it is kept functional, relies heavily on technical equipment and sociopolitical infrastructures. The complexities and challenges of preserving digital heritage can be summarised as follows: reading older code and software can be difficult; obsolete technology and the reliance on third, often commercial, parties pose problems; software and hardware maintenance can be very time-consuming and expensive; with different people working on a project, changes to projects appear over time; and art projects in particular can evolve into other versions, which makes it hard to define what an art project is or consists of in the digital environment (Dekker 2010; Depocas 2003; Hodge 2000; Rinehart and Ippolito 2014). While the digital preservation practice described in this chapter is specific to cultural heritage and art, the complications, challenges and solutions are also relevant to understanding the wider issues of networked culture, which is characterised by a similar assemblage of human and non-human actors.[1]

In the past two decades, several solutions to preserve digital heritage have emerged (Dekker and Falcão 2017; Engel and Wharton 2014; Rechert et al. 2013). While some of them work well, in many cases the content and information changes, as most hardware and software follow the economic model of planned obsolescence (Fitzpatrick 2011; Pope 2017). Consequently, endless migration, emulation, virtualisation and documentation tools and projects are being set up to prolong

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the functioning of digital heritage. However, a focus on high-end technical preservation methods for maintaining digital heritage is revealed to be unsustainable and questionable. This happens at the level of the method: preservation approaches such as migration, emulation or virtualisation risk changing the form and content of projects, and similarly, with every software upgrade the media environment in which these projects exist can further change their aesthetics and functioning (Dekker 2018; Rinehart and Ippolito 2014). Consequently, specialist knowledge and expertise are also continually required to solve new technical challenges and at the same time, non-professionals who are engaged in preservation efforts will need specific guidance, both of which are a burden to most organisations (Summers 2020). Finally, the enduring technical rat-race comes at a high energy cost, which results in significant carbon footprints for digital heritage projects, and thus digital preservation presents a challenge to the ecological environment (Bhowmik 2019; Cubitt 2016; Gabrys 2011). Taken together, a tension emerges between the need to keep digital heritage safe for future research, cultural memory or evidence, and the continuing need to update technical tools and methods to enable these art projects to survive but which poses an increasing burden on organisational infrastructures and methods as well as on the ecological environment. In other words, digital sustainability is a preservation dilemma, or even a paradox.

In recent years the literature about digital sustainability has resonated in digital heritage organisations, where sustainability is mobilised to improve gallery spaces, and waste and energy management to minimise the ecological footprint (De Silva and Henderson 2011; Kagan 2011; Pendergrass et al. 2019; Tansey 2015). As a result, many organisations set their environmental goals by directing their attention to financial and staffing resources. At the same time, overwhelmed by the constant technical changes, several artists have decided to delete their projects. For instance, in 2011 Slovenian net art pioneer Igor Štromajer ritually deleted a number of his classic art projects that were produced between 1996 and 2007; because of changes to technical settings and the updating of the web, the art projects no longer looked or functioned as he had once intended (Sakrowski 2017). While Štromajer prefers deletion to aesthetic loss and malfunctioning; in other cases, users have started to take care of decaying art projects (Rinehart and Ippolito 2014; Van Saaze 2012; Zavala et al. 2017). In such instances, networks emerge wherein tasks and responsibilities are distributed and shared. I termed such networks "networks of care" (Dekker 2015, 2018). Here the challenge of preservation shifts from the object itself to the maintenance of a network that supports the art project (Laurenson and Van Saaze 2014).

Museum and conservation studies have a long-standing and valuable perspective on preservation but have been slow to respond to the potentiality of involving expertise from beyond their realm (Wharton 2011). In general, they have avoided the topics of social process and cultural change and how these could affect the sustainability of digital heritage, mostly as these may challenge institutional values and processes (Nowvisky 2019; Prelinger 2019; Rinehart and Ippolito 2014). Moreover, by focusing on the uniqueness of the object and its technical aspects they neglected

the importance of the complex and inherently changing sociotechnical infrastructure in which digital art projects thrive. Sustainability, in the sense of preservation, is as much a problem of governance as it is of technical and environmental constraints. In this chapter, I move beyond the economic or quantifiable benchmarking of sustainability and emphasise another potential area in which digital preservation can become more sustainable: by focusing on the potential of networks of care as a way to preserve an art project. While these processes happen in all types of arts, they are particularly manifest in net art projects, because in those cases there are strong relational dependencies between different technologies, people (artists and users), and ideas that cooperate in the realisation of an art project.[2] It will become clear that such an approach is not merely a material or technical solution to fix a project, as many net art projects – similar to a networked and relational image-assemblage – are embedded in and develop as part of a sociopolitical and technical environment that will need to be taken into account when considering their preservation.

Care as a Conceptual Device and Practical Method

In 2011, digital humanities and media studies scholar Kathleen Fitzpatrick suggested that the preservation of digital objects may become less about "new tools than new socially-organized systems, systems that take advantage of the number of individuals and institutions facing the same challenges and seeking the same goals" (Fitzpatrick 2011). Similarly, in 2014 Head of Collection Research Tate Pip Laurenson and researcher Vivian van Saaze concluded in relation to preserving performance art in the museum that: "It is not the problem of non-materiality that currently represents the greatest challenge for museums in collecting performance but of maintaining – conceived of as a process of active engagement – the networks which support the work" (Laurenson and Van Saaze 2014). Even though the importance of thinking about preservation within a network structure that consists of social relations is gaining traction, it is important to note that the network is not yet seen as inherently part of an art project. Instead, the network is seen as facilitating a project or a preservation approach. Yet, what happens if the network is considered as an actor rather than a tool? Moreover, in what way could such a network be said to care?

Evidently, the notion of care is very present in preservation practice: collection care is pretty much at the heart of preservation. Yet, here I want to try to move beyond caring for an object, and instead focus on care as a relational practice. While the concept of care is used and interpreted in different ways depending on academic or professional discipline, country and culture, I follow the notion of "care" as conceptualised and described by Annemarie Mol in her ethnography of health care.[3] In her book *The Logic of Care* (2008), Mol describes how care is not merely a matter of making well-argued individual choices but is something that grows out of collaborative and continuing attempts to attune knowledge and technologies. Care is understood as involving professionals and patients but also other material elements and technologies. Similar to how humans' responses can

be ambiguous, the research shows how the unintended effects of technology can impact the course of care (Mol et al. 2010). In other words, they stress how care is relational: a set of heterogeneous practices that is local and specific and involves a "persistent tinkering in a world full of complex ambivalence and shifting tensions" (Mol et al. 2010, p. 14). Moreover, in care, the action is more significant than the actors: the latter may shift and change, but the relational actions remain important. While Mol makes explicit what it is that motivates care: an intriguing combination of adaptability and perseverance; feminist scholar María Puig de la Bellacasa emphasises how care is also never neutral. It is ambivalent, simultaneously necessary and oppressive, it suggests affect but also asymmetrical power relations; moreover, it provides space to think about possible worlds. In this sense, it is open-ended and invites (or provides space for) speculation (Puig de la Bellacasa 2017). Clearly, and as mentioned by anthropologists Mol and Hardon, "engaging in *caring* does not serve an unequivocal, common good. To think that it does is yet another romantic dream (Puig de la Bellacasa 2017). Caring practices, like other practices, are rife with tensions" (Mol and Hardon 2020). By using the concept of care as a tool to analyse the *activity of caring* that happens in preservation, and more specifically in digital art projects, I understand care as specific, situated and complex, yet also as a relational and processual activity that develops over time rather than being performed in a single moment. As Mol and Hardon point out, such an "activity of *caring* is not taken on board by isolated individuals, but spread out over a wide range of people, tools and infrastructures. Such *caring* does not oppose technology, but includes it" (Mol and Hardon 2020). Moreover, "The technology involved does not offer control, but needs to be handled with care – while, in its turn, it is bound to only work as long as it is being cared for" (Mol and Hardon 2020). I'd like to expand on this by emphasising the agency of technology *within* and *through* the network of care.

Framing a Network of Care

The concept of "network" has a long history and can mean different things in different disciplines and discourses. Here I loosely follow the description of Deleuze and Guattari that characterises a network – they use the term rhizome – as a system of non-hierarchical connections without clearly defined borders: a "rhizome has no beginning or end; it is always in the middle, between things, interbeing, *intermezzo*" (Deleuze and Guattari 2004[1980], p. 27). This means that a network is a dynamic system in which it is not apparent when or where a network starts, or who starts it, nor that its development can be predicted.[4] Such temporality in care is not unusual: even institutional and conventional preservation practices tend to happen at unpredictable moments – either when something breaks while on display, or when something is taken out of the depot due to a loan request and is then examined.

One of the conclusions that came out of my earlier research on the conservation of net art was that these preservation efforts often are maintained and/

or prolonged by different individuals, who collaborate as a network of care. By addressing these networks *as* care, I aim to draw attention to the significance of practices and experiences that are rendered invisible or marginalised by conventional and dominant "successful" – and mostly Western – forms of institutionalised preservation practices. From a pragmatic point of view, a network of care is based on a transdisciplinary attitude and a combination of professionals and non-experts who manage or work on a shared project. More specifically, for a network of care to succeed outside of an institutional framework it ideally has to consist of several characteristics. These can be identified by looking at how a network gives agency to the different actors involved.

To summarise, ideally a network of care adheres to a transdisciplinary attitude, consisting of a non-hierarchical or informal structure with different levels of expertise. To enable the creation and administration of a project, the transmission of information is facilitated by a common mode of sharing in which everyone in the group has access to all the documents or archives. Ideally this is an open system or a dynamic set of tools that is used and also cared for, where users can add, edit and manage information, and track changes. Such a system can also be monitored by the network, potentially both by the users and the machine itself. An added bonus is that if someone leaves, the project can continue because the content and information is always accessible and embedded in a larger network. This allows users to take control of a shared project, thus obtaining meaning from their "investments." To be able to share information and benefit from experience and insights gained elsewhere (for example, in other networks dealing with similar issues), a network should be dynamic, so that individuals can move easily between roles and projects, which can also be merged or divided among smaller or more specialised groups.[5]

While investigating the social sustainability efforts of several net art projects, I noticed different types of networks of care. While most emerge from urgent issues, or are formed around an emotional connection, they often develop and are organised in different ways. Here I made a distinction between how a network of care can be: (1) (part of) the art project; (2) an artistic preservation approach; and, (3) a proposition as part of a pilot study. Analysing these different approaches will highlight the challenges and potentials of a network of care for digital preservation.

Network of Care as Art Project

In 1997, Martine Neddam launched the website *mouchette.org*. The project presents Mouchette, a nearly 13-year-old French girl who lives in Amsterdam and speaks English and French. Mouchette uses the website to tell her personal life story on several web pages, which started to populate the site throughout the years.[6] Mouchette never ages, but visitors gradually learn more about her troubled past, as the website, and the project as a whole, expands into more and more web pages and projects, albeit that it is not entirely clear what the "whole" project actually is.

Neddam refers to the character Mouchette as a metaphor that she uses to create meaning around issues she finds relevant:

> It's hard to say what constitutes *mouchette.org*. Over the years I have lost track of all the performances, projects and objects that I made. But for sure, *mouchette.org* is more than just a website. (…) When I started Mouchette I wanted to use the notion of a character as something that transcends media, I saw the character as something that can be used as a form, or a container, this allowed me to gather and structure information. I have always believed that a character, a person or an identity is a good metaphor. They can assume the identity of an institution without actually existing. In this sense, I see characters as containers that carry units of meaning.
>
> *Dekker 2011, p. 22*

In 2003, as part of the mouchette.org project, Neddam started a Mouchette network (*mouchette.net*), an open platform where anyone could be Mouchette. Members can use Mouchette's identity to send e-mails, upload their own image to the main site or create their own version of a Mouchette website. This network grew over the years, and several versions of Mouchette appeared.

As a counterpoint, the *ihatemouchette.org.net* was started to support those sharing stories about why they don't like Mouchette. Besides being a communication and presentation tool, or a "social space" and "a platform of exchange," as Neddam refers to them (Dekker 2011), the networks are also intended to confuse people by

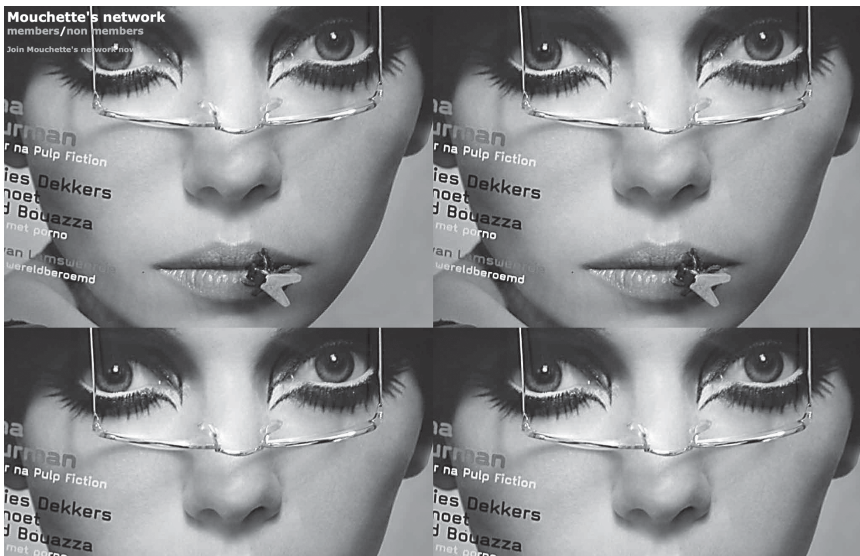

FIGURE 10.1 mouchette.net, screenshot

allowing users to create alternative or anonymous personas, and by not being clear about identity and authorship.[7] Similar to the anonymous character of *mouchette.org*, the identity of the *mouchette.net* members is not always clear, nor is their ownership of the project. Neddam herself mentions how she considers the additional sites as valuable versions of her Mouchette project (Black 2020). Although the idea of creating different networks is important to Neddam, she uses them primarily to reach out to and connect with the fans of Mouchette, and not (yet) as a preservation strategy.

Yet such a situation arose when *mouchette.org* was threatened with court action. In 1997 Neddam launched a quiz in which she compared different Mouchette characters: her own version against the main character in the film *Mouchette* (1967), directed by Robert Bresson – both characters are based on the novel *Nouvelle histoire de Mouchette* (1937) by Georges Bernanos. The widow of the French director was not amused by the comparison between the characters: mouchette.org was regarded by many as a controversial website, as it had become the topic of heated debates in the French news. Particularly her webpage in which she addresses the topic of suicide by asking what a suicide kit for children (as a toy to learn more about suicide and play "pretend suicide") should contain, and started a forum where people could respond and give advice, was not taken lightly. In 2002, a few years after the launch of the game, mouchette.org received a summons from Bresson's widow – reinforced by the French Society of Dramatic Authors and Composers (SCAD) – cautioning her to delete any reference to her husband's film from the website.[8] If not, more legal measures would be taken. Neddam decided to remove the French part of the game, but at the same posted the letter and the story on various e-mail lists. A chain-response followed in which several organisations and individuals – some of whom were part of the various Mouchette networks – said that they would mirror the game on their servers. Distributed via different servers and websites the French game can still be played.

A network of care emerged, both as an emotional response and to protest an urgent culturally (or politically even) unjust issue. As an informal structure, some of the organisations managed to preserve and still host the work while others changed direction and lost or deleted the project in the process. This is not uncommon and happens particularly with art projects that are not cared for by institutions (Van Saaze 2012). Yet the example highlights the necessity of connecting users who are, or become, partly responsible for the management and accessibility of content, in which different aspects of preservation can also be applied. In other words, a process of negotiation and re-questioning develops, which Renée van de Vall connected to a form of "middle grounding" (Van de Vall 2018), a process in which different viewpoints such as stories about details, private disclosures and generic or general statements alternate. Such a structure in which different perspectives come together ensures that a process of gradual acceptance takes place. In this sense, borrowing from Puig de la Bellacasa (2017), a network of care is not maintained by individuals in terms of giving and receiving, but by a cooperative disseminated force in which the complexity of the circulation of care is all-pervasive. At the same time,

it shows how a network of care can dissolve, or change direction, perhaps to return at another time.

Rather than an obstacle, a network of care as (part of) an art project is inherently temporal and unexpected, yet tracing the art project's historical changes benefits from a trail, for example, version control or other documentation systems, that clarifies the decision-making processes.[9] Finally, with networks being integrated into the concept and structure of the project, a network of care stands a better chance of being activated when needed. Whether or not this will be successful remains to be seen, but a focus on relations of temporality and care contributes to an acknowledgement of alternative ways of thinking about preserving art projects that are processual and networked in nature, either in or beyond the institutional purview and towards a practice that is more inclusive of the networks that are at the core of the project.

Network of Care as an Artistic Preservation Approach

As mentioned in the introduction, in 2011 Slovenian net artist Igor Štromajer announced on Facebook that he was going to delete a large portion of his earlier projects: "If one can create art, one can also delete it. Memory is there to deceive." According to the artist, his projects didn't look the same anymore because settings had changed and the web had been updated (Sakrowski 2017). Burdened by never-ending technical changes, updates, migrations and the threat of obsolescence, Štromajer preferred deletion to aesthetic loss and technical malfunction. The project, aptly titled *Expunction*, raises questions about temporality, duration, access and availability on the web and how these processes impact cultural memory. While his action provoked concern and indignation on Facebook: "Igor!!!!!!! Can't you do something else to go through your mid-life crisis????!!!!!,"[10] Štromajer continued to delete his older projects. Yet, at the same time he documented the entire process: screenshots and texts of the projects, the reviews about them and the conversations around *Expunction* are now all saved on his website and hard drive. As part of the performance, and as a subsequent phase of the project, in 2016 Štromajer sent an e-mail to a selected group of his contacts. I was one of the recipients and the e-mail read: "Dear Annet, I'm sending you five files. Please put them somewhere safe. Thank you very much, Igor" (Figure 10.2).

I opened the files and saw two abstract cropped images, two gifs (one of someone sitting on a toilet and one of a roll of toilet paper), and an audio file of less than a second. Two years later I received another similar e-mail, this time a bit more descriptive, asking me to put the – now-encrypted – files in a safe place. Asking him about his practice, Igor explained that *–oμ4x* (minus mu four times) is a "performative action" in which over a period of several years, from 2016 to 2022, he asks a decreasing group of people to safeguard several files (a random selection from his earlier project *Expunction*).

Looking for other modes of distributing, sharing and experiencing the art that is trapped and compressed in the removed files, Igor is organising an emerging

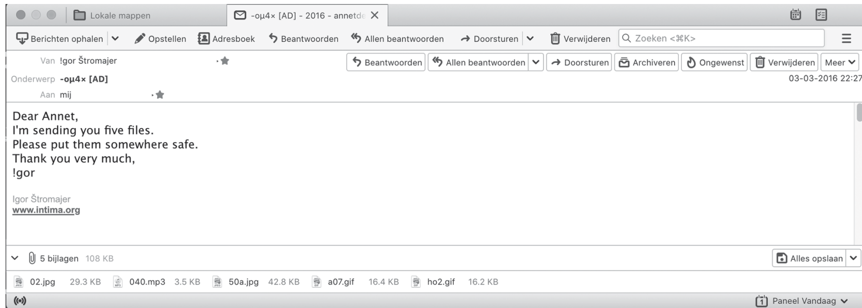

FIGURE 10.2 E-mail Igor Štromajer, *–oμ4x*, 2016, screenshot

network of guardians, or caretakers, oriented towards *becoming* rather than *being* (Harrison 2015, p. 27). The project proposes new modes of active engagement and creative use, and demonstrates an engaged way of dealing with circulation and relations, in which the distributive effects are intentional, even if what finally happens is unpredictable. Moreover, the repetition of the performative act of sending and receiving transforms the singularity of an affect into a sustained engagement. The extended period of waiting for something to happen affirms the reality of the events that unfold, even if the outcome is unknown. The project can disappoint but that is also its beauty: the potentiality of the event – the suspense or suggestion of infinity or of being part of an adventure, which may only become clear through engaging with it. Indeed, these images are hardly interesting by themselves, but together and as part of a larger whole they are compelling because they convey a suggestion of potentiality. As Štromajer suggests:

> It's a kind of a cycle, a durational, perhaps never-ending online performance with its natural rhythm: being constructed, deconstructed, then reconstructed anew, but this time differently. Who knows exactly what comes afterwards, but there is certainly no end to this cycle, because every trace, every move you make has its consequences.
>
> *cited in Sakrowski 2017*

There is no logic or predictability, and while the individual images and other files remain autonomous, all together and with the sparse e-mails they become networked images symbolising a promise, a proximity which one day may be fulfilled. In effect, the project feeds a continuous desire that keeps returning with each engagement. In addition to the technical files and encryption, which harbour their own technical specificity and agency, the social aspect of the act is important here.

–oμ4x reflects the complex temporality of many net art projects; arguably the network was instigated by the first e-mail, but its development is ambiguous, prone to rupture or loss, and the result is speculative, depending on the actions of the actors who don't know each other (yet). An example of what this could mean was

shown in 2019 when Bonnefanten Museum in Maastricht organised a solo exhibition of the Dutch process artist Ine Schröder. Schröder is known for allowing her art projects to "disappear," for giving them the opportunity to become something else, and many of her projects ended up being preserved by her circle of family, friends and acquaintances (Reinders 2019). Similar to the other examples I described, she did not regard her art as a sum of autonomous things, and she wasn't interested in something definitive or fixed; instead, she choose permanent transformation and described her process as a network of "staketsels," continuously reconfigured objects, connected in memory, space and time. Paradoxically, and not unlike Štromajer, she documented and archived her art projects meticulously. Discovering this archive after her death, the museum also stumbled upon a social network of "donors" who they contacted to find out what was left of the once given or discarded art projects. The documentary that was made of their discoveries shows how the individuals in the network care about the legacy. Each person assumed agency over the gift by paying close attention to the fragile constructions, gluing back pieces or rearranging the parts. Sometimes smothered with affection the projects were given new life. By presenting their art as public gifts, and choosing to circulate it among close friends instead of commercial or established artworlds, Schröder and Štromajer's approaches manifest networks that include points of convergence, yet these likely occur at an undecided moment when different actors find a point of connection, or shared interests, in which the roles of artist, audience, curator and conservator are allowed and sometimes encouraged to merge, leading to various and multiple narratives and solutions. Similar to the minute and multiple archival notes, instructions and documentation, a network becomes an invitation, a gesture to the future to continue a project that was never finished in the first place.

A Network of Care as a Proposition

When presenting some of the outcomes from my previous research on the concept of a network of care, I was often asked what it means to set up or become part of one, particularly from the point of view of an institution. Since I had focused on artists' projects, I also wondered what setting up and sustaining a network of care from an institutional perspective might involve? Art historian Karin de Wild and I initiated a pilot study to analyse the different actors within a network of care to learn more about their potential roles, and the benefits and challenges of setting up and sustaining a network of care. We selected the art project *Brandon* by Shu Lea Cheang. We had both worked with Cheang before and *Brandon* had been restored in 2017 by the conservation team at Guggenheim in collaboration with the computational department at New York University (NYU). The restoration was primarily focused on the recoding of the website and that other parts of and previous partners in the project were less involved in the preservation efforts. Our aim was to see whether it would be useful to form a network of care around the project to bring out the different aspects of *Brandon* by including these collaborators and developers. Such a network seemed relevant since Cheang in various interviews

has emphasised that "*Brandon* is a multi-artist, multi-site, multi-institution collaboration" (Ho 2012), and from the beginning the idea was to keep the project growing.[11] We started by locating and talking to the main institutions who were actively involved in various stages of the art project's development to find out how they viewed their role in a (future) *Brandon*. These different stakeholders were important to comprehend the intricate nature of *Brandon*, which expanded and evolved beyond the main website, and to understand the relevance of *Brandon* at the time it was created, how it developed and the (historical) importance of the project today. So, what constitutes *Brandon*?

Cheang started *Brandon* in 1996 as a critique of social normality. *Brandon* was directly based on two articles that appeared in *The Village Voice* at the time: the court case around the rape and death of the 21-year-old Brandon from rural Nebraska in 1993, who was murdered for living life as a male despite being born female, and a notice about a rape spree that took place in a text-only chat room that left the victims feeling violated and bereft. The events touched upon some of the core themes in Cheang's work, in particular, the exploration of gender identities and her interest in probing the tension between cyberspace and physical space, which led to years-long research into the expression and repression of gender and social inequalities. Initially commissioned by curator John Hanhardt (who was working at the Whitney Museum at the time, but took the project with him to Guggenheim when he joined it in 1998), *Brandon* was set up as a collaborative platform in which artists and curators were invited to respond to these acts of violence, and Brandon's story more specifically. In this sense the project revolved around care in multiple ways: by foregrounding sensitive sociopolitical topics of sexual assault and discrimination and how these were dealt with by police forces and the legal systems. Different organisations and individuals (including artists, curators and general audience members) also cared for the continuation of the work by organising events or adding content to the website. Especially in the years 1998 and 1999, the project started to expand in unexpected directions through the involvement of the various authors and organisations, resulting in installations, online discussion forums, networked performances, and the non-linear website.[12]

Similar to Neddam and Štromajer, Cheang played an important role in the development of the preservation trajectory by explaining the directions that the project and the related presentations took and addressing its sustainability issues. Cheang also mentioned how she regarded *Brandon* as a platform for others to take control of by organising and producing situations that would activate other storylines or collaborators.[13] Although it consisted of many events, the website as the main platform became the best known part of the art project. The website is divided into multiple sections, each with different interfaces – bigdoll, roadtrip, mooplay, panopticon and theatrum anatomicum – that together form the platform. Each interface is programmed as a mainframe: a structural construct in which the contents and collaborators can change. So, while the programming is fixed, the narrative shifts and evolves as a result of new participants as well as technical add-ons and plug-ins. Although users of the site can browse the different sections, the navigation is not

straightforward. As Cheang states, it was deliberately created to function as a maze without clear icons or other markers to aid navigation:

> One's ability to investigate, negotiate with the mouse(over) brings different experience of the work. Within a one year stretch, which includes installation, live chat format, actual/virtual performance, no one (including myself) can claim to have viewed the entirety of this work. Pop-up windows on the roadtrip interface, cells of panopticon interface, are all an expansion of the space, spaces to be occupied by various narratives and inhabitants. Surely, non-linear and non-conformative.
>
> *Cheang cited in Ho 2012*

One of the consequences of the intricate and elaborate technical and social network involved in the preservation was that the website malfunctioned. These were both technical, due to software and hardware obsolescence; and social, because of personnel changes at the different organisations. Hence, the website has been offline several times over the years.[14] Matthew Fuller's analysis of the project provides insight into the potential of Cheang's platform and how its organisational allies become part of the aesthetic of collaboration, effectively approximating a network of care:

> Cheang's methods also include creating contexts for the development of artistic languages to emerge. That is to say, she operates at the level of collective individuation in which art and the consideration of its adequacy to the present can be arrived at. Such work implies that there is also an aesthetic of collaboration to be found – an activity core to her work – for instance, in the creation of common platforms or in the curation of the work by other artists, technologists, and musicians with whom she works. Such platforms also establish a condition in which duration begins to operate as a dimension where a work unfolds and finds itself, and in which processing the question of the language of a project becomes part of the palpable working method.
>
> *Fuller 2019*

In other words, despite the unstable situation of *Brandon*, which extended from its artistic conceptualisation to its technical and organisational context, would it be possible to translate an "aesthetic of collaboration" into a network of care to preserve the project? If so, do the various actors, i.e., the organisations, individuals and the technical elements all care to the same degree?

In 2015, Guggenheim initiated a collaboration with students from NYU's Department of Computer Science to preserve *Brandon*. Their goal was to revive it as a living art project, while preserving all functional behaviours and aesthetic properties of the work as defined by the original source code. This involved a combination of code migration, hyperlink replacement, database replacement, and HTML tag and frameset migration. In keeping with conservation ethics and

standards, all the changes were documented through version control, treatment reporting and code annotation.[15] In 2017, they relaunched the website. Yet, several challenges undermined a restoration of the entire project: while the website is part of the Guggenheim's permanent collection, the collected ephemera of the offline events are not. Moreover, even though *Brandon* could be reconstructed and studied through documentation and other fragments that are in the archives of different institutions (among others, at De Waag in Amsterdam and Fales Libraries & Special Collections at NYU), not everything is properly processed or accessible. In an attempt to form a network of care we had individual discussions with some of the collaborators from the past: Cheang herself, Dragan Espenschied and Michael Connor (Rhizome), Marvin Taylor (Fales Library & Special Collections), Marleen Stikker (De Waag), and Mark Graham (Wayback Machine).[16] While all these institutions have their own expertise, approaches and work cultures, we wanted to know if they were interested in a potential collaboration, keeping in line with some of Cheang's intentions for the project. For instance, would it be possible to bring individual efforts together so that they contribute to the whole? How does one build on someone else's knowledge? How can sharing and access be improved?

The primary challenges to digital preservation were identified during the discussions. Firstly, financial: since most preservation of digital art is not yet institutionalised, each organisation has its own way of securing funding or allocating budgets. Lacking fixed resources means that most initiatives are project-driven and thus preservation only happens when there is an immediate concern. For instance, as Guggenheim recalled, an earlier effort to preserve *Brandon* was instigated by a request from another museum for a loan, which made them look closer into the functioning of the project (Engel et al. 2018). This way of working is commonly referred to as "conservation-in-action" (Wielocha 2021). Secondly, the reliance on individual efforts: most preservation endeavours are dependent on a specific person, for instance, the artist(s), a curator, or a conservator. Attention for a certain project often lapses when staff are replaced, and consequently specific knowledge and expertise disappear. Moreover, since most institutions don't have a digital art conservator, they rely on external knowledge, which makes it harder to build on past experiences, particularly when decisions are not well documented. Thirdly, the issue of scattered elements: besides the problem of technical obsolescence, with a distributed project such as *Brandon* sometimes parts of the project are lost because it is unclear where or in which institution they are kept. Fourthly, the paradox of digital preservation: having to continuously update the technology to maintain its functioning or aesthetics impedes the restoration or migration efforts. This becomes a technical rat race, in which technical solutions are endlessly stacked on top of each other. In the end it does not only require preserving the project but also preserving the ever-mutating technical environment that is needed to keep the software and hardware functioning.[17]

In conclusion, we noticed how the problem of continuous technical updates doesn't only encumber the project, but also the organisational efforts. Indeed, the Guggenheim has explicitly expressed a need for a dedicated person to lead digital

preservation processes, and has underscored the urgency of raising more awareness about digital preservation in the rest of the organisation (Dover 2016). While these challenges are hard for a single institution to overcome, they could be solved by stronger collaborations, i.e., networks of care, in which budgets and expertise are shared, as mentioned by De Waag: "Our starting point is to be situated in the 'art of combining', in the interdisciplinary field. That you are at the edge of your capabilities, and you learn to accept that you are not always the expert."[18] Moreover, it is by acknowledging – and following the art project's aims or characteristics – that preservation happens via various elements and actors that are continuously (re)arranged, following Cheang's wish to keep *Brandon* growing by "commission[ing] artists to expand the interface, like forking out with more episodes, more story development."[19] One way to safeguard such evolvement is by focusing on the relational arrangement of care in which preservation is negotiated between different actors, including humans (the artists, curators, conservators, users and others), as well as on the material and technical elements (including software, hardware and the documentation systems that are used), while accepting that these components may change over time. Finally, recalling Mol et al., (2010) change is not achieved by controlling these elements but should be seen as inherent in the elements and hence, care is temporal and continuous and occurs through experimentation, adaptation and mutation. In other words, such an approach follows the characteristics of a network of care as outlined above.

A Network of Care, or Preservation as an Evolving Process

Referring to shared resources and goals, a network of care includes social relations and negotiations that are necessary to produce and maintain a network and a project. As a model of shared knowledge, it means that not one person has all the information, nor all the power, since the different elements and expertise are distributed. In other words, everyone may own part of a project but the network governs the whole. In line with Fuller's suggestion of an "aesthetics of collaboration," a technical platform can function as a binding element, keeping social relations and potential technical elements together, for example, when (parts of) a project are also archived on the platform. Moreover, the technical construction of the platform can inform the specific information exchange and the ability to follow historical changes. As a consequence, the platform will co-determine the success of a network. This way, it can be argued that technology also cares.

Instead of focusing on specific material elements of a project or on a particular outcome, such an approach regards digital preservation as an ongoing cyclical and evolving process in which various carers come together, share their ideas, but also disperse, reconvene and change, potentially *ad infinitum*. This includes acknowledging that in addition to the actions of humans, materials and technology intrinsically affect the art project as well as the preservation method. Taken together they can offer new perspectives on preservation thinking and doing. Digital preservation as a relational network of humans, materials and technology is executed,

reacted upon and consequently evolves or mutates, making it a complex process riddled with kinks, folds, hiccups and slippages, which twist and bend in various directions, creating uncertainty, unpredictable behaviour and surprising results. In this sense, digital preservation can be understood as a speculative practice, where knowledge unfolds between subjects (human and non-human) whose ability to know is mediated by how they reach out, and by the receptivity of the other. Digital preservation then becomes an intriguing combination of adaptability and perseverance, and is formed and developed by the network, in which social, political, economic and technical relations overlap in various ways. In the process the project as well as the network will likely change and can produce new forms of care. While this proposition has the potential – or may seem – to disrupt the status quo, it is not merely about changing or choosing for one or the other option; rather, what the conceptual framework of a network of care proposes is developing a process of relation-making and supporting shared-learning.

The examples I have explored above illustrate new modes of active engagement and creative use, and demonstrate an engaged way of dealing with circulation and sociotechnical relations, in which the distributive effects are intentional even if the outcomes are unforeseeable. Or, paraphrasing Puig de la Bellacasa, a network of care proposes a practice constantly done and undone through encounters that accentuate both the value of trust as well as the awareness of alterity. Moreover, the open and shared process requires a situated ethicality to enable an effective and accountable decision-making process that ensures a more resilient digital preservation practice (Puig de la Bellacasa 2017, p. 115). This means that digital preservation is about striking a delicate balance between care, dependency and equity, in which it is important to continuously question the place of care within or beyond notions of power and ethics as well as the relationships between different dimensions of care.

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Notes

1 This is not to imply that the proposed framework can be generalised to become representative of networked culture: instead, the concept of network of care offers an example of best practice, of reference and of comparison to other situations in which humans and non-humans form a relational network.
2 For more information about how I describe the characteristics of net art, see Dekker (2018 pp. 19–33).
3 In her monograph, Mol (2008) describes living with and treating diabetes, and 13 studies from different areas are assembled in the co-edited volume with Mol et al. (2010) positioning the ethics and politics of care.

4 A discussion of "network" is beyond the scope of this chapter, yet importantly, while Deleuze and Guattari emphasise the dynamism and hence the temporal (or the becoming of components) within their thinking, I assume that some entities will also be relatively stable. Hence, the network is not necessarily always based on equality; at certain moments specific components may have more agency than others. Yet, a thorough understanding of all the components and their relations is necessary to understand these dynamics. It is the tension between them that underlies preservation practices.
5 In Dekker (2018 pp. 88–92), I describe the context of networks of care in more detail, in particular, by building on Hui and Halpin (2013).
6 For a more in-depth description of the project and its preservation dilemmas, see Dekker (2018).
7 For more information about the construction of identity through image(s) in mouchette.org, see Warren-Crow (2014).
8 Interestingly, the cease-and-desist letter was addressed not to Neddam (who only outed herself as the author of mouchette.org in 2010), but to mouchette.org, effectively making the website a legal identity.
9 Here there is much to learn from conventional preservation practice where systematics of version control and decision-making models have been developed. See, for instance, Engel and Wharton (2017) and Barok et al. (2019); in the latter a thorough analysis is provided about the influence of a technical system on the way the content can be preserved and understood.
10 Annick Bureaud, www.facebook.com/intima/posts/144916102244400.
11 Personal interview with Shu Lea Cheang, 19 April 2019.
12 For an overview of the different parts of the project, see Engel et al. (2018), and de Wild (2019).
13 Personal interview with Shu Lea Cheang, 19 April 2019.
14 The project was partly funded by Banff in Canada (1995), the Guggenheim in New York (1998), Waag Society in Amsterdam (1997–99), and Harvard University (1999). Over the years several organisations tried to keep the project functioning or archive it, among others, Rhizome and the Internet Archive. For a timeline of the periods of activity and non-activity, see Engel et al. (2018), de Wild (2019).
15 For an elaborate account of the preservation process see Engel et al. (2018).
16 Mark Graham and the Wayback Machine, were never involved in *Brandon's* development; however, over the years they crawled the website and stored screenshots on the Wayback Machine. We believed that this documentation could be relevant to understanding the history – and potential future – of *Brandon*.
17 These challenges are in line with art preservation more generally; however, the speed of deterioration around many aspects of digital art – and thus the need for solutions – is more urgent here. For more information see, among many others, Dekker (2022) and Rinehart and Ippolito (2014).
18 Personal interview with Marleen Stikker, director Waag Society, Amsterdam, 19 May 2019.
19 Personal interview with Shu Lea Cheang, 19 April 2019.

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THE NETWORKED IMAGE IN POST-DIGITAL CULTURE

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