3   Networks of care

In 2011, I curated *NetArtWorks*, a series of small thematic online net art exhibitions on the theme of Identity Works for SKOR (Foundation for Art and Public Domain) in Amsterdam. Each presentation consisted of two newly commissioned artworks in combination with an existing iconic artwork. *mouchette.org* (1996) by Martine Neddam fit the theme perfectly.[1] *mouchette.org* is an interactive website that started in 1996 and has evolved over the years. The exhibition on SKOR's website raised several issues that I discussed with Neddam. Would *mouchette. org* be mirrored or embedded in SKOR, or should screen capture videos of different people navigating the site be shown? How should the biography of the work be presented? Many of these discussions were directed toward the old aesthetics of the site, and consequently developed into discussions on the conservation of *mouchette.org*. For example, features that were largely unknown in 1996 are widely used today, which makes many of the aesthetics seem outdated. The most obvious example is the entry page, which has early HTML checkboxes that are no longer used. Another example is the 'blog'-like structure used in some of the projects. Whereas in 1996 the site would be referred to as a diary or personal website, today it is understood as a blog even though it is quite different from one. Nonetheless, will people 30 years from now understand the meaning of the word 'blog', or for that matter a 'personal website'? Similarly, some of the interactive elements on the website are antiquated and difficult to explain without becoming overly technical or historical.

Instead of incorporating the old artwork into SKOR, Neddam proposed to concentrate on making a new work, a physical translation of the online project, focusing on the identity, or the brand, of *mouchette.org*. This led to the creation of the *Guerrilla Fanshop*. The shop sold some objects that were part of old projects, but allowed for a distinctive appearance: mimicking typical fan gear and paraphernalia such as stickers, T-shirts and bracelets. The *Guerrilla Fanshop* could be visited in SKOR's exhibition space, a small semi-detached building with its own entrance and two large windows overlooking the street. The exhibition space shared many of the characteristics of *mouchette.org* – a single entity in a larger infrastructure that could be changed according to specific 'rules' – and it became an interesting metaphor for the work. Similarly, the *Guerrilla Fanshop* was symbolic: on the one hand it reflected the desires of 13-year-old girls, while

on the other, in light of our discussions, Neddam would like the conservation of a work of art to become a new work of art.[2] The suggestion to conserve *mouchette. org* by creating a new work required Neddam to re-use and re-stage specific parts of the collection that consists of both online and offline artworks. In this way, an 'archive is never the "freezing" of something'.[3] Rather it surpasses the documented – or still existing – works to produce and proliferate new works.

Neddam's suggestions seem far removed from conventional conservation practices. The theory and practice of conservation usually starts with addressing the issue of how culturally significant works can be conserved to their authentic state or as close as possible? Or, if needed, how can artefacts, like art, be restored to their authentic states by means of intervention? When considering the notion of variability, *mouchette.org* is an interesting case to explore, because it is presented in various constellations and forms while maintaining many of its existing elements. In other words, in order for *mouchette.org* to 'survive FOREVER' as a mix of new and existing parts, it is necessary to find a way to conserve at least parts of the work for future re-creation. In this chapter I focus on the possibility of conserving *mouchette.org* by assessing if and how a net artwork can be conserved. I also take into consideration the specific knowledge that is needed to conserve artworks that continually change. First of all, what does authenticity mean in conservation, and what is its value and meaning in relation to variability?

Authenticity

The question of authenticity is a recurring topic and one of the key concepts in conservation theory. Nevertheless, for many decades the meaning of authenticity did not receive critical attention. The concept of authenticity was first given credence in the Venice Charter of 1964, which stated in part that 'the common responsibility to safeguard [ancient monuments] for future generations is recognized. It is our duty to hand them on in the full richness of their authenticity' (ICOMOS 1965). Most likely due to the homogenous group of discussants the term itself was taken for granted (Stovel 1995). Thirty years later, the International Council on Monuments and Sites (ICOMOS), together with the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) and the United Nations Educational, Scientific and Cultural Organization (UNESCO), organized 'The Nara Conference on Authenticity' in Japan. Representatives from 28 countries discussed the many complex issues associated with defining and assessing authenticity. The outcome was the *Nara Document on Authenticity* (Larsen 1995), which built on the Venice Charter. This time the concept stressed the particular importance and application of authenticity as it relates to cultural heritage, as well as how authenticity is rooted in specific cultural contexts and thus should be considered accordingly (Larsen 1995). Yet, over the years the exact meaning of authenticity has been contested and it is still subject to critical revision, reinvestment and redirection. This makes authenticity a variable concept.[4]

In art conservation, authenticity is generally used to measure the originality of materials and an artwork's completeness (Laurenson 2006). For museums,

the quest for authenticity is important because it represents 'the real objects, the actual evidence, the true data as we should say, upon which in the last analysis the materialistic meta-narratives depend for their verification' (Pearce 1992:4). This means that measuring authenticity allows for a distinction between 'real' works and forgeries. Elizabeth Pye, Professor of Archaeological & Museum Conservation, proposed a working definition that has been adopted by many conservators:

> Authenticity has been generally considered to mean genuine in terms of materials, workmanship and date, and processes used to authenticate objects concentrated on the identification of raw materials, the examination of tool marks and other aspects of construction, and, where possible, the use of scientific dating techniques.

> (2001:59)

In conservation theory this type of authenticity is also referred to as *nominal authenticity*, which defines empirical data, or 'the correct identification of the origins, authorship, or provenance of an object, ensuring, as the term implies, that an object of aesthetic experience is properly named' (Dutton 2003:259). Philosopher Dennis Dutton distinguishes *nominal authenticity* from *expressive authenticity*, which is seen as a 'committed, personal expression' in which the artist (or performer) is faithful to his/her own artistic style and creative process, rather than to a historical tradition (Dutton 2003:267). Whereas *nominal authenticity* enables an understanding of the practice and history of art through material analysis, *expressive authenticity* manifests itself through individual and/or collective values, beliefs and ideals. These are merely two types; essentially, authenticity has been approached and defined in multiple ways, particularly under the influence of less stable artworks and an increasing understanding of technical artworks in the last two decades.[5]

It could be argued that the ease and tolerance of replication, appropriation and versioning in the World Wide Web further complicates authenticity. Although artists have employed these strategies for many decades, the speed and accessibility of the network means that visuals, videos and sounds can be readily transferred and copied within seconds. Walter Benjamin's influential article 'The Work of Art in the Age of Mechanical Reproduction' (1969[1936]) is still the most cited when discussing the question of authenticity in relation to art produced by technical means. He asserts that reproducibility cannot be authentic because the 'aura' of the original work is lost. According to Benjamin, the manipulability or malleability of the photographic or phonographic copy diminishes what is at the crux of authenticity, 'the authority of the object'. This is due to the loss of its presence in time and space (Benjamin 1969:521). Net artworks are for the most part inherently variable and oftentimes multiple versions of the artwork exist. However, this does not equal reproduction; these are different versions, hence they can still be authentic. *mouchette.org* is exemplary in this sense. The work is rooted in specific art historical and technical contexts. The different projects act like an assemblage that evolves; in addition, the deliberately ambiguous wordplays and references

influence authenticity in a way that questions both nominal (material) and expressive qualities (conceptual ideas).

mouchette.org

mouchette.org is an interactive website created in 1996 by a pseudonymous character initially known as Mouchette. The project developed and evolved over the years. Additional pages were added and other physical offline projects and events were organized. In 2010, after many years of well-kept secrecy, Martine Neddam revealed herself as the author behind Mouchette.[6] However, most people doubted her real identity since Neddam had performed role-plays several times before. For example, when asked to present *mouchette.org* at an event, she asked other people to stand in as Mouchette (Dekker 2011a).[7] Nevertheless, even today the visitor is welcomed on the homepage by a large bright flower, with a few red drops, a fly buzzing, some ants squirting around and a small stamp-size photo in the upper left-hand corner of a young girl looking down, presumably Mouchette (Figure 3.1). There are several checkboxes and a drop-down menu from which several projects can be accessed, and unexpectedly one can stumble upon invisible links that direct to a project or present a pop-up text. In the background one can hear the howling sound of a wolf, or, when revisiting the site, the soft sobbing, giggling or yawning of a girl, or merely a brief 'bonjour'. Mouchette claims to be almost 13 years old, an artist and living in Amsterdam. What initially appears to be the personal website, in English and French, of a female teenager evolves into darker themes in subsequent pages.

The name Mouchette derives from the novel *Nouvelle histoire de Mouchette* (1937) by French author Georges Bernanos, and the film *Mouchette* (1967) by Robert Bresson, a free adaptation of the novel. In both accounts, Mouchette is a girl between childhood and adolescence. She leads a harsh life: rejected by society (family, school and friends), raped by a trusted older man, and the death of her mother. These events leave her disheartened, and although never made explicit, the story ends with her suicide. Bernanos claims that the story was inspired by his first-hand accounts of the atrocities of the Spanish Civil War while he was exiled in Majorca. Bresson wanted viewers to understand how humans negotiate their own redemption (Hudson 2009). *mouchette.org* takes many of the themes that play out in the book and film and re-performs them in a contemporary setting, namely as an online diary with several project pages. Neddam uses some Web characteristics in intricate ways to emphasize the drama and enigma of the story. For example, hyperlinks create confusing circulation; interactive possibilities produce several layers of information and identity play is performed in various ways. The latter is best visible in the wordplay of 'mouchette', the website's domain name, the girl's name and the French word for 'little fly', but is differently shaped in subsequent projects. The equivocal use of these characteristics makes it difficult to comprehend and identify important and less relevant aspects of the project. Moreover, the themes and concepts used in *mouchette.org* amplify this sense of ambiguity.
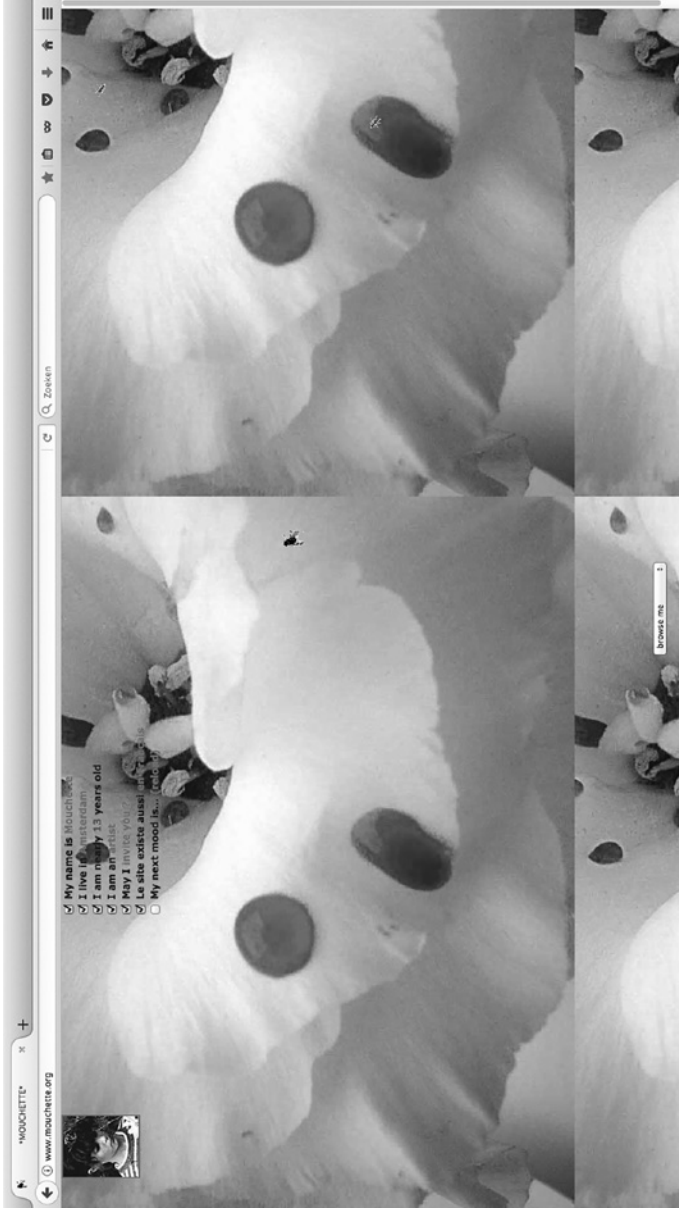
Figure 3.1 Martine Neddam, *mouchette.org*, 1997.
Screenshot homepage, 11 October 2017

For example, the website's most prominent themes evolve around metaphors of violence and death, more specifically suicide.[8] On the opening page, a large flower with several small drops of blood on its petals accompanies the photo of Mouchette. An animated GIF[9] of a fly moves slowly in the centre of the page, while two animated GIFs of ants move frantically to-and-fro at the edge of the screen.[10] This somewhat weird scene is enhanced by a female moaning softly, almost sexually. When clicking on the fly, the visitor enters a page where Mouchette points to a sentence with the meaning of her name. Another click on the fly opens a new page with a half-finished meal on a dinner plate. The image is abstract and shows a hand pecking at the remains.[11] Another hand becomes visible when scrolling down. This project can also be accessed by clicking on 'dead fly' in the drop-down menu on the homepage. A grey square with the words 'it's me' circles above the plate, accompanied by the sound of a buzzing fly. Clicking on the square proves rather difficult. It is either through determination or smart thinking that the button is 'caught'. If successful, a black page opens. Green letters appear after a few seconds, as if typed live. They accuse the visitor of killing the fly when he/she pressed the button on the previous page. The fun of play on the previous page is turned into dark humour. The story continues when the fly – or the girl? – asks the visitor to tell her why she's dead. An e-mail entry opens, and when clicked again (either by ignoring or sending a message), another page opens with *Lullaby for a Dead Fly*. The dark, almost melancholic, tonal music accompanies fragments of text that pass across the screen from all sides. The text consists of changing e-mails sent by people who have answered the question.

As mentioned, over the years Neddam was invited to present the project at exhibitions and events, but instead of showing up herself she asked other people to impersonate Mouchette. In some instances a 13-year-old girl presented the project's website, in others, a male in his 30s. Neddam also used various objects in exhibitions, from videos to cheap and colourful soft toys, post cards and compact discs (Figure 3.2). She also organized several events around the website, for example, a Last Birthday Party (14 December 2001) and the Guerrilla Fanshop (6 July – 26 August 2011) (Figure 3.3). Neddam considers all of these outputs to be integral elements of *mouchette.org*. As such, Mouchette can be seen as an identity through which various projects are presented, or as Neddam calls it a 'brand' (Dekker 2011a). Use of the terms 'brand/branding' are interesting when considered in the light of the readings of sociologist Celia Lury, who argues that a brand is 'a platform for the patterning of activity, a mode of organizing activities in time and space' (2004:1).[12] This means that a brand emerges in parts. Therefore, as she argues, it is an open system that extends into, or implicates, social relations. Furthermore, 'it is some-thing that is identifiable in its doing' (ibid.).[13] This notion of 'brand' affirms the construction of *mouchette.org* as an assemblage that varies over time and is composed of different parts and projects. The suggestion of an assemblage is reinforced by the intricate navigation of the website, which changes with each visit. The multiple projects both signify and give meaning to Neddam's Mouchette. Arguably, these characteristics are the website's greatest appeal, but also prove to be the most challenging elements for the conservation of the project.

Figure 3.2 Martine Neddam, *Guerrilla Fanshop*, 2011–present.
Photo by Lisa Elsenburg

Figure 3.3 Martine Neddam, *Guerrilla Fanshop*, 2011. Presentation at SKOR, Amsterdam July 2011.
Photo by Hennings Backer

What are the limits of such variability and to what extent does its code and infra-structures change?

These two questions relate to another challenge: the time-consuming techni-cal maintenance of the website. According to Neddam, because of the ongoing software updates and changes to the Web, she spends several hours a day fixing bugs and making small changes to *mouchette.org*'s code.[14] Although this may be overstated, and would certainly not be the case for every net artwork, the problem remains: What does this mean for the practice of conservation? How can such an involvement be implemented in existing workflows? More importantly, how much should a conservator know about a work? Knowledge is a necessary condi-tion for authenticity. Various kinds of knowledge are involved in this case study, from material to art historical and social behaviours. In other words, in *mouchette. org*, nominal and expressive authenticity go hand in hand, and at times influence each other.

To summarize, *mouchette.org* is heterogeneous and continually re-negotiates its own conceptual structures. The development and maintenance involve incom-patibilities, constraints, rules and a certain amount of improvisation. It poses sev-eral challenges for conservation. For instance, it consists of some old-fashioned material aesthetics; some of the outdated code and software can be difficult to read; maintenance can be very time consuming; participating users might change the work; and it evolves into other projects. It could be argued that these problems are not unique to *mouchette.org*, or net art for that matter; however, the combina-tion is rarely found in other artforms.[15] Moreover, the speed of developments, and consequently the depth and breadth of different knowledge fields, are major concerns. What knowledge and practical support is needed for a website to remain accessible?

(Re)constructing net art

The distinction between software and code is often blurred in common parlance, but understanding the difference between the terms often helps to identify authen-ticity. In general terms, software consists of the instructions that are entered into the memory of the computer, and is referred to as 'soft' because it is more malle-able than the hardware (Petzold 2000). Software is the computer program that end users perceive and/or interact with, while code is what constructs that software; each software can consist of layers of code. Software and code are often hid-den and not always directly visible. The hardware shields the programming and functionality beneath. Nevertheless, in most software the back-end code has a specific aesthetic that is easily recognized by those familiar with the programming language, and its 'front-end' aesthetics can also be discerned through historical comparison. Arguably, software itself does not have a specific aesthetic. Soft-ware aesthetics are largely adopted from other media and conventions. For exam-ple, desktop files and documents are clearly metaphors for office environments. However, computer functionality does produce distinct aesthetics, for example,

low-tech aesthetics that, as explained by Goriunova and Shulgin, reveal themselves through the limitations of the technology:

> Bottlenecks, such as processor speed, screen resolution, color depth, or network bandwidth – 4-bit, 8-bit music, 16-color pixelized visuals, slow rendering, compressed image and video with artifacts – create an authentic computer aesthetics, that is, the aesthetics of low-tech today.
>
> (2008:113)[16]

Similarly, computer (hardware) displays also have certain aesthetics, mostly through their limitations; for example, screen resolutions, processor speeds and network bandwidth. A combination of these aesthetics, both hardware and software, can be traced in *mouchette.org*, which Neddam tries to conserve as much as possible to create a 'witness' to a specific time. The distinction between hardware and software can also be seen as the difference between front-end aesthetics and back-end aesthetics. The front-end is the Web browser, the interface of the website and the screen to view the work.

When opening *mouchette.org*, an immediate mid-1990s hardware and software aesthetic is recognized. The homepage shows a close-up of a flower covering two-thirds of the frame. The rest of the frame is tiled with the same image. The size of the larger image refers to the original width of a typical browser screen in 1996, with a resolution of 800 x 600 pixels (width x height). Similarly, the checkboxes next to the photo and the drop-down menu with the title 'browse me' at the bottom of the page signal the aesthetics of its language, HTML (HyperText Markup Language). In the early days of the Web HTML elements formed the building blocks of websites. The extensive use of these old features in *mouchette.org* can be seen as a longing for the past, a technical fetish. But to Neddam, there is more to it. By holding on to the old aesthetics and functions, she wants to highlight a time when the user controlled things more easily. As Neddam explains, the game of the 'dead fly' described earlier is a good example of how functions have changed and affected people's behaviour. When she programmed the 'dead fly', visitors could resize the screen manually. It was not programmed to a fixed size, unlike some websites. Although the 'it's me' button was extremely difficult to catch as it spun around the screen, the screen could be resized to make a small cage to trap it. This resizing also affected the Javascript program, which slowed down the movement of the button. Nowadays, resizing happens automatically, and since some sites protect their layouts, people tend to forget, or ignore, that it is possible. According to Neddam, this has led to a loss of user freedom and interaction.[17] In a similar way, Neddam dramatized the limitations of long image loading times due to slow network connections. Short groans, howling dogs and a sobbing female voice played on repeat until the image was loaded. These could be adjusted with faster loading times, but the limitation of slowness and the repeating sounds proved good methods to heighten the tension of the narrative.

These aesthetic references are important elements that reveal aspects of the author's creative process and artistic intent. Neddam works within the constraints of a past that bears witness to earlier Web aesthetics. She uses these early aesthetics to enforce this past. They also allow her to emphasize the theme of the website and its literary style. To put it more explicitly, just the idea that a 13-year-old made a bilingual and intricate website is already implausible. This narrative of misconception and false expectation runs through the website and is emphasized by hidden links and the deliberate (mis)use of tools. An example of the latter is the HTML checkboxes that lack customary functionality. Firstly, they are already checked, not to mention mere static graphic elements with text that links to other pages. As stated by art historian Matthias Weiss,

> [t]hese are all hints towards the literary possibilities of the net, of moving within fictional trails within the texture of the Internet, and of inventing a separate and different identity. However, the site transcends the application of these and leads to a reflection of the mechanisms of self-construction.
>
> (2009:170)[18]

Neddam is persistent in conserving the old aesthetics; however, this is not to say the website is static. On the contrary, *mouchette.org* is very dynamic, not only because external updates require the project to be adjusted, but visitors to the website also play an important role. They can comment on specific projects. They can also 'be' Mouchette by signing up to the Mouchette Network or by creating their own Mouchette page.[19] Seemingly, these interactive elements make it easy to take control of *mouchette.org*. This use of commenting on issues and questions raised by Mouchette establishes the interactive side of the website. However, none of these actions influence the back-end: the software and code that is used. At first sight, the use of software seems limited to its functionality.

A functional use of software does not mean that software, or programming, can be easily migrated onto a new platform. For example, to make everything work properly after migration it would be easier, in theory, to rebuild *mouchette.org* in a PHP5 environment rather than adjusting the code in its current language (PHP4). Rewriting is easier than reworking existing software. Fixing outdated versions takes a lot of time and most programmers are not interested in, or capable of, doing this. Although the logic might be the same, the language of a new version may be different from the older versions. This is not to say the aesthetics, or the work itself, changes. Although they may, it primarily signals the existence of several parallel executions or reworkings of the artwork. Variations between versions are made in order to improve on or prolong the experience of the artwork. Moreover, even the best programmers forget exactly how older systems work. This is not necessarily a problem of remembering. Very simple programmes built two years ago might be difficult to fix, simply because the environment around them has changed. As mentioned by programmer Ellen Ullman:

> By the time a computer system becomes old, no one completely understands it. A system made out of old junky technology becomes, paradoxically,

precious. It is kept running but as if in a velvet box: open it carefully, just look, don't touch.

The preciousness of an old system is axiomatic. The longer the system has been running, the greater the number of programmers who have worked on it, the less any person understands it. As years pass and untold numbers of programmer and analysts come and go, the system takes on a life of its own. It runs. That is its claim to existence: it does useful work. However badly, however buggy, however obsolete – it runs. And no one individual completely understands how. Its very functioning demands we stop treating it as some mechanism we've created like, say, a toaster, and start to recognize it as a being with a life of its own. We have little choice anyway: we no longer control it. We have two choices: respect it or kill it.

<div align="right">(2013[1997]:117)</div>

So, it is not the memory of a single detail, but the whole ecology of both hardware and software that needs to be taken into account, as one minor detail is linked to or is dependent on another. This becomes clear in the following example.

As mentioned, Neddam is quite specific in her efforts to conserve the old software for as long as possible. However, instead of emulating or migrating old pieces to new software, she prefers to make the old ones function again by adding new patches to circumvent problems. For example, at the time they were made, some of the projects resulted from specific ideas, but the limitations in hardware formats prevented Neddam from realizing them. Neddam states that she created 'Lullaby for a fly', including its soothing and repetitive music, with the idea that one day a person would take a computer to bed.[20] Although the possibility of taking computers to bed is very real now, Neddam's feature runs on a specific version of Flash that does not function properly with current technology. Neddam thought of redoing the piece, emulating it. But, during the attempt, programming mistakes were made. The text would not run in the preferred order and eventually blocked the flow. Neddam accepted this at the time. And now, while considering the possibility of a new version, she is unsure whether to fix earlier mistakes or leave them as a record of earlier programming. As she explains:

> I like that Mouchette's back-end is a bit 'dirty'. I like to compare programming to painting. Just as Mondriaan's brushstrokes are very important, there is an authorial 'hand' to a website. All the compressions for example are on purpose. This hand speaks directly to the emotion and shows the intention of the work. I strongly believe that there's a programming style which relates to the goal you want to reach.[21]

It could be argued that Neddam, in this case, prefers the material (nominal qualities) to her conceptual ideas (expressive qualities). However, taking into account the kind of materiality that I described in the introduction (i.e., highlighting technical and social relations of network culture from which materiality emerges), the relation between nominal and expressive qualities is more complicated, which makes a stringent division incongruous. While Neddam could not execute her

initial concept due to technical limitations, these restrictions had a primary influence on her work.

To return to the importance of programming styles, computer programmer Paul Graham (2004) takes the comparison between painting and programming one step further. While advocating for their similarities, he suggests that hacking and painting involve the same creative process.[22] Both of them are 'learnt by doing', meaning that most paintings have a history of sketches and consist of different layers on a canvas. These layers slowly lead to the final painting, in which every detail has been carefully chosen. Painters also copy and learn from existing works. Similar to literature, versions of paintings develop by copying the methods and styles of earlier masters, not necessarily in an attempt to make faithful reproductions. The artist wants to improve a skill and bring the history of painting (or literature) to new levels. A similar strategy can be found in open source practices, where one studies the source code and learns to program. In short, a painting evolves through sketches, layers and experimentation. Such a dynamic process is also visible in coding. This demonstrates why it is important to read the back-end of net art, not only to be able to restore the code, but to also see why and how certain decisions were made. As in the case of *mouchette.org*, technical limitations serve a conceptual goal. To quote Graham: 'Great software, [like painting], requires a fanatical devotion to beauty. If you look inside good software, you find that parts no one is ever supposed to see are beautiful too' (2004:29).

Personal programming is also a topic among programmers. Some even claim to recognize someone else's training as, for example, originating from computer science or biology.[23] Without moving into detail, the importance of human and cultural factors in programming, and thus computing, is demonstrated by the condition of 'Turing completeness'. Named after Alan Turing, 'Turing completeness' signifies that a universal Turing machine can simulate every other computing device. This means that a machine, which acts as a universal Turing machine, can, in principle, perform any calculation that any other programmable computer is capable of.[24] As researcher Florian Cramer points out, while machine functions might be interchangeable, 'their different structures – semantic descriptors, grammar and style in which algorithms can be expressed – lend themselves not only to different problem sets, but also to different styles of thinking' (2008:170). Similarly, media theorist Wendy Hui Kyong Chun shows that there are many myths around the dichotomy between the computer and its 'all-powerful programmer who magically transforms words into things' (2011:19).[25] She counters the belief that source code automatically does what it says. Such mystification of computing neglects the complexity of the execution. As she explains: 'Code does not always or automatically does what it says, but it does so in a crafty, speculative manner in which meaning and action are both created' (2011:24). This is to say that software is layered and shows itself most clearly in the execution of code. For instance, a programmer writes source code that consists of instructions in a certain language (for example, the commonly used C or FORTRAN).[26] Computers can only execute instructions that are written in machine language (known

as a low-level language). As such, compilers transform programs by producing intermediary forms or object codes that are similar to machine language. It may be that only lines of code that are necessary during particular moments or for specific programs may be executed (Chun 2011:24). Recalling Graham's words earlier, source code can reveal more than what is executed.

This situation was demonstrated when programmer Mark Hellar looked into the work *Agent Ruby* (1999–2002) by Lynn Hershmann and found a 3D model and code that resembled a text-to-speech program. These were never used in *Agent Ruby*. As he describes: 'It looked like they had been trying to create a 3D model that would convert text from the artificial intelligence program into speech, but that never happened'.[27] This leads to the observation that not only do the writing styles differ, but also that the source code is not mere repetition. Some things are left out when the code compiles. Thus, the original source code may contain more information than what is seen after the compilation. In this case, the code could be said to contain contextual information about the technical constraints at the time, and possibly the artist's ambitions (in 2004, Lynn Hershmann used a text-into-speech system in her project *DiNA*).[28] It is important to understand source code as something ambiguous and not as generalized writing. As Chun also argues, when dealing with computer languages it is a myth to think that there are no mis-readings or misunderstandings and only transparent information (2011:79). The extent to which code is ambiguous, and hence what can or cannot be altered, is crucial to the practice of conservation, particularly when considering which approach to take in re-creating or conserving a work. Furthermore, if software is the behaviour of the machine or a process in action, then how can a historically significant compiler, operating system or database be conserved?

To briefly summarize, so far I have emphasized the following points in identifying the relevancy of authenticity in software-based art. Firstly, conceptual ideas are influenced by the restrictions of hardware and software, but these limitations can become driving forces. Secondly, the act of programming, programmers and the code are part of an artwork's style and aesthetics. Thirdly, code often contains contextual information that is not necessarily used, but can clarify as well as cloud meaning. I will explore the relevance of these points in more detail in the following by analyzing a media-archaeological reconstruction of the computer-based artwork *LoveLetters* by David Link, and compare it to Neddam's endeavours.

Reconstructing front-end and back-end

Neddam explores the aesthetics of software and code in profound and intricate ways. With prominent moving GIFs, a mix of different language styles (from literary poetry and invented language to audience comments), the insistence of dealing with the limitations and technical aesthetics of early computing, and the use and misuse of interactivity, *mouchette.org* combines elements of artistic, linguistic, computational and social cultures. *mouchette.org* reinforces their interdependence, pushing the aesthetic boundaries of art, while opening up societal taboos like incest, pornography and suicide. With a firm background in the arts,

Neddam started as a novice on the Web. She entered a new world without a clear model of how to make art in this environment. This attitude of working without a plan, building from scratch and recycling, is very much reflected in the programming style of *mouchette.org*:

> HTML code, in the beginning, was also something you could pick up and recycle, in a very humble, un-technical way, like *Facteur Cheval* picking up stones to build a palace. The knowledge came by doing. In the end the interface is totally custom made. [. . .] I resisted CMS because of the excessive standard functions, but for the website about.mouchette.org I'm using a common CMS and it gives me a high sense of frustration, like being in a prison, having to use all kinds of predesigned boxes. [. . .] I dream of having a software that lets me create by archiving. I am trying to find a programmer to compose an archival system within a spatial environment, an archival system that will suit Mouchette's needs and nothing else.[29]

Can the attitudes reflected in the work be conserved? Over the years Neddam has continuously updated and maintained *mouchette.org* (Neddam 2010). The website's success shows that her conservation strategies are effective, but is it possible to rebuild software after years have passed or an artist has died? In the past decade several successful attempts have been undertaken to restore, emulate or reconstruct software-based art. In most of these cases this was in close collaboration with the artist/programmer, but this has not led to best practices that could be used to find solutions for the conservation of these works.[30] Moreover, what happens when there is no guidance from the artist/programmer? David Link's rebuilding of *LoveLetters* shows that it is possible to reconstruct previously made software-based works.

LoveLetters was programmed in 1952 on a Manchester Mark I by Christopher Strachey, a fellow Cambridge student and later a working colleague of Alan Turing's at Manchester University. The Manchester Mark I was one of the earliest electronic, programmable and universal calculating machines. The machine used Williams tubes as means of volatile storage. Strachey's software used the Ferranti Mark I's built-in random generator to generate over 318 billion unique love letters (Example 3.1) (Link 2006).[31] Although the letters are fun,[32] it is in the process of working, in other words, the context of the generator's processes, that makes them interesting and gives additional meaning to the data.[33]

In 2009, David Link presented his reconstructed *LoveLetters_1.0. MUC= Resurrection. A Memorial* at ZKM in Karlsruhe. To build a functional replica of the Ferranti Mark I, Link worked from two archival photographs and several other documents found on the Internet, and deciphered the software from Strachey's handwritten notes.[34] As part of the travelling exhibition *Fun in Software*, Link's installation was presented in 2010 at the Arnolfini in Bristol and MU in Eindhoven. The installation consisted of a Ferranti Mark I replica and some of the original working components, like the old teleprinter, the original Williams

tubes, Stracey's digitized notes and the projected love letters. Visitors could use the Ferranti Mark I by following the instructions. By toggling switches on the reconstructed interface, the user could execute Strachey's software through its rewritten code. If someone managed to type his or her name in Baudot code on the computer's typewriter, the resulting love letter would carry his or her signature. The new letter was then projected at the entrance to the space or somewhere on the building's exterior. At the same time, the letter was recited through an old speakerphone placed outside the exhibition space. Stracey's digitized notes were displayed on two vertical LCD screens near the installation. These revealed his intricate ways of thinking. The visitor was given unique insights into Link's reconstruction process by sifting through and deciphering this information.

MY LIKING ANXIOUSLY ADORS YOUR ADOUR. MY FELLOW FEELING IMPATIENTLY LONGS FOR YOUR AMOROUS ENTUSIASME. YOU ARE MY BURNING DEVOTION. MY SYMPATHETIC HUNGER. MY DEAR INFATUATION CLINGS TO YOUR APPETITE.

YOURS AFFECTIONATE

MUC.

Example 3.1: DARLING JEWEL[35]

This is not to say that reconstructing software is an easy undertaking. Link confirms it took many years of arduous work because tracing the original equipment also turned out to be more difficult than expected. The hardware was often found by accident through university libraries or, in one instance, discovered in a dark corner of a farmer's barn.[36] Because some parts were extremely hard to find, it was necessary to emulate them. It can be argued that because the original paper notes could be accessed, reconstructing then re-executing the code was simpler. This kind of material evidence is easier to keep and read than code stored on obsolete hardware. However, as Kirschenbaum has shown, information (stored on a hard drive) leaves a trace that can be forensically reconstructed, 'given sufficient resources – that is, elite technical and financial backing – data can be recovered from media even under the most extraordinary conditions' (2008:xii). Those trying to re-create gaming experiences make similar statements.[37] Next to reconstructing technical parts, specialized systems are devised to annotate and capture user data during the development process. This simplifies the reconstruction of the code.

As Neddam also experienced throughout the years, the reconstruction or restoration of software is possible (Neddam 2010). Nevertheless, the success of a restoration depends very much on the programmer doing it. Whereas most

programmers fix problems by replacing or rewriting code into new versions – something of which Neddam is not in favour – only a few programmers take the trouble to work from the old code. For these programmers, software is not just a tool that can be adapted, emulated or used to make the work easier. For them, the fun is in the mental process of doing code that influences how they structure and think about information. As described by Niek Reus (one of Neddam's programmers):

> Before you start with the actual coding work, you visualise the results in your mind. In a sense it is close to playing chess. You try to figure out all the moves and the consequences before making the move. The actual work, the writing of code or programming, is merely typing in the final result. Sometimes a problem is technically visible, but more often there is a certain sensibility that you need to have in order to solve a specific problem.[38]

Even though Neddam insists on keeping the 'original' code, additional code is written to enable it to function properly. Although it could be argued as being variable, in most cases the 'original' code will change. On a practical level, an element that no longer functions because of browser settings could be made to work by adding a patch that translates the code into the new settings. This means that instead of being variable, the work is always in process, i.e., any transformation of the code gives it a different meaning.[39] By translating the code, the language changes, as does the acquired meaning. Furthermore, it follows that code attains meaning in relation to specific contexts; for instance, when combined with that which lies outside of the code, or as Matthew Fuller states,

> [Software] gains its power as a social or cultural artefact and process by means of a better and better accommodation to behaviours and bodies which happen on its outside.
>
> (2008:5)

It is in light of social and contextual relations that Link's attempt is less 'successful'. Although he restored the functionality of the work, the historical context, meaning and function of the love letters were lost on most visitors. These could only be traced through written accounts, or in other cases, through video documentation. Furthermore, by disconnecting the various components, such as placing the typewriter on a pedestal covered by a protective glass case and shielding off the space around the Williams Tubes, a work that was once whole (defined as different elements that produce a result by working together) is now disconnected. The playful *LoveLetters_1.0* still functions, but by separating and shielding some objects, it is seemingly in a state of 'freeze'.[40] As such, the material (nominal) authenticity of the machine is conserved at the expense of the conceptual (expressive) and experiential authenticity of the work. An emphasis on the physical object fits traditional conservation strategies, but shifts the focus

away from setting up a system that could, for example, work with a wide variety of documents and operating systems. Such a strategy, as Ippolito also argues, would establish the rules necessary to evolve an ecosystem capable of withstanding unpredictable changes in technology. It is a future vision of self-evolving artefacts: 'The organisms on the landscape – variations on word processors – might be interbred to produce new variations, and those judged best able to display various documents would pass their code onto the next generation of word processors' (Rinehart and Ippolito 2014:202–3). However interesting this may be, a claim for the conceptual and the experiential over the material overlooks the importance of a media-archaeological approach that tries to open up historical paths that are themselves easily overlooked. Certainly in art, stepping away from conventional examples as well as from the endorsement of consensus is an important step.

To briefly summarize, the notion of variability is more complicated when used with software-based artworks than, say, analogue installation art. Although variability in the true sense of the word (i.e., instantiations based on the same score/code) might not be possible, digital documents contain remarkable amounts of historical information through which saved metadata can be accessed. As concluded by Kirschenbaum, 'computer operating systems are characterized less by their supposedly ephemeral nature than by the exquisite precision of their internal environments' (2008:204). I will return to this seemingly paradoxical situation as being both 'variable' and 'processual' in Chapter 6, where I discuss the difference between 'fixed' versus 'fluid' and 'performative' versus 'processual' processes. For the moment, it can be concluded that software is not necessarily a problem that cannot be overcome in conservation. As long as the susceptibility of specific code is comprehended, inclusive of software and the cultures around it, a website can survive for many years. However, it is important to note that the use of open standards increases the chances of survival. While it is acknowledged that using open source software in artworks benefits conservation (e.g., Kirschenbaum et al. 2009; Dekker 2010), questions around the standardization of software-based art in terms of conservation (for both open source as well as proprietary hardware and software) will likely be the greatest challenge in the (near) future.

A related issue that is often overlooked within digital data collection systems is that they often 'assume ideal circumstances and a homogeneous data set, not the messy world of proprietary and mutually incompatible formats one gets from an individual user's hard drive' (Kirschenbaum et al. 2009:110). Present strategies such as cloud computing or other third-party back-up services will further complicate these matters. Another characteristic of many net artworks, and certainly of *mouchette.org*, is their processual nature. Websites change over time, sometimes as a result of technical changes (ranging from new browsers to screen size adjustments), or through visitor inputs. Technical variations can be traced in code, but a conservator must choose which version(s) to save (either by freezing, restoring or documenting) or with which to work (in the sense of keeping the website alive as a point of departure). Moreover, visitor input and user experience

Figure 3.4 Martine Neddam, *mouchette.net*.

Screenshot homepage, 11 October 2017

are much more difficult to trace. At the moment, this kind of information is often neglected and hard to capture. In other words, there is often only content without context.

Network of care

In the case of *mouchette.org*, users play an important part in the evolution of the work. They are invited to utilize specific elements and create their own (version of the) website. They are also interesting to consider in terms of conservation strategies. To start with the former: how can users 'become' Mouchette? At a certain point in the website visitors are invited to enter Mouchette's network (Figure 3.4). They can obtain a password that enables them to act like Mouchette. With this password, texts and photographs can be uploaded to *mouchette. org*. E-mails sent to Mouchette may also be answered by the new inlogee. For Neddam, *mouchette.org* is primarily a tool for communication: a social platform that branches into several directions. First of all, *mouchette.org* is a playful interface, as Neddam explains, a way to express herself about issues that she as a non-native English-speaking person would find difficult to articulate (Dekker 2011a). Secondly, *mouchette.org* as a social platform is a space where people can communicate with or help each other. And thirdly, it allows visitors to use the website for their own projects, or to build on or re-use in their own webspaces. The latter testifies to the project's success, as several Mouchettes have been created over the years. Moreover, the work was promoted by a close but dispersed community of followers. This could be part of the solution for its future conservation.

The term 'network' is used in different ways to characterize current social formations (especially within technological cultures). My intention here is not to

focus on a theory of networks, but to indicate the potential of networks as collaborative practices that work towards the realization of projects. As such, the networks I'm referring to are closest to what media researchers Geert Lovink and Ned Rossiter have termed 'orgnets' (Lovink and Rossiter 2005; Lovink 2008:239–55). Orgnets are organized networks that should be seen in opposition to commercial social networking websites. These network formations are based on people who come together for a common purpose by building strong ties among dispersed individuals, thereby bringing goal-driven organization to the Internet. The emphasis is placed on collective intelligence (Levy 1999), or the idea of a knowledge community (Jenkins 2006), in which everyone knows something, but no one knows everything. However, I do not want to confine my use of the term 'networks' to technology. And following researchers Yuk Hui and Harry Halpin (2013), who lean on philosopher Gilbert Simondon's collective individuation (1989), I want to stress collectivity in networks. Simondon's notion of collective individuation (1989) is an interesting point of departure to analyze the underlying structures of networks. It helps to see the individual and the group not as opposing but as entities that influence each other and together constitute a constant process of individuation. As stressed by Hui and Halpin:

> Psychic individuation to Simondon is more a simple individualization, which is also the condition of individuation, while collective individualisation is the process that brings the individual into a state of constant transformation [. . .], each individual is at the same time both an agent and a milieu.
>
> (2013:111)

A networked, community-driven conservation strategy is not unlikely to happen for *mouchette.org*. For instance, a situation presented itself on 23 July 2002. A few months after Neddam launched a quiz comparing characters from the film *Mouchette* with the website, she received a summons from Bresson's widow to remove any reference to the film.[41] Shortly afterwards, Neddam posted the letter on her website and through her e-mail lists. In response, several independent organizations took it upon themselves to mirror the project on other websites.

   Similar initiatives are becoming more widespread. Instead of traditional institutions, a collection of individuals and small organizations gather to form foundations that look after an artist's legacy. In such examples, a network of different people gathers around an initiative and starts working together. It is not uncommon for such networks to form around artworks that are not collected by museums, large institutes or private collectors: either to protect the work from censorship (as was the case with *mouchette.org*), or to safeguard and protect it, often after an artist dies. With different stakeholders and caretakers who do not have a centralized system or organization to manage archival information, the relationship between conservation or documentation practices and knowledge transfer becomes inherently political. In her article, 'The Ethics and Politics of Documentation' (2012), Van Saaze examines how collaborative knowledge production takes shape in discussions about the continued existence of an artwork, and what

role documentation plays in such a process. Analyzing the documentation of Robert Smithson's land art project *Spiral Hill/Broken Circle* (1971-present) shows that several stakeholders became involved in the discussions around the project's conservation, but that reaching a solution was difficult 'partly due to the fact that the relevant information was distributed over a wide range of archives' (2012:81), which complicated the decision-making process. Nevertheless, the most recent restoration (in 2012) was completed as a result of individual and collective efforts by a network of caretakers. Van Saaze concludes that:

> in the absence of a common heritage framework, the decision to keep this work for the future cannot be traced to one single moment in time; the history of the work shows that its prolongation had to be negotiated again and again.
> (2012:82)

The distributed network of caretakers functioned through a combination of experts and non-specialists who brought in knowledge from different fields and backgrounds.[42] As acknowledged by Van Saaze, a thorough investigation of the different roles and motivations of the stakeholders, or caretakers, might provide a lot of insight into the political dimensions around the artwork, as well as into the art world at the time. Moreover, analyzing the underlying structures could show how sustainable such a network can be. This shows that 'users' not only influence and assume ownership of the work, but that they also take care of it – at least to a certain extent. The degree to which this happens will most likely shift in time and through different networks, because the process is ever evolving, like the work itself. Nevertheless, the formation of a 'network of care' adds to the importance of *mouchette.org*.[43] Besides reflecting on its own artificial conditions, it uses these conditions to set unintended, emergent and distributed events in motion. These conditions add to the work's original ambition. Such distribution and dispersion of events is not uncommon in net art and is often what it thrives on. Similar works are, for example, Olia Lialina's *My Boyfriend Came Back From the War* (1996), a unique and fascinating example of net art that keeps inspiring artists to create remakes and remixes. The outcomes are all archived in Lialina's online *Last Real Net Art Museum* (1996-present).[44] Or, *oμ4×* a 'performative action' by Igor Štromajer who over a period of four years (from 2016 to 2020) asks a group of people to keep safe several encrypted files, which he randomly selected from his earlier project *Expunction* (2011) in which he deleted many of his net artworks from his server. Looking for other modes of distributing, sharing and experiencing the potential art which is stuck and compressed in those removed files, Štromajer is organising his own 'network of care'.[45] These works afford new modes of active engagement and creative use, and demonstrate a more recent way of dealing with circulation, in which the distributive effects are intentional if not foreseeable.

Although important questions remain – for example, how shifting constellations and power relations will affect future prolongation efforts of the artwork, or who will be leading or even responsible for safekeeping and tracking the documentation that is distributed across several caretakers – it is clear that these networks can operate without the structures of centralized archives and authorized

custodians, which are present in most museums. For a 'network of care' to succeed outside of an institutional framework, or to become effective as a tool for transformation, it ideally has to consist of several characteristics. These can be traced by looking at how a network gives agency to individuals, instead of answering the question of how individuals create networks.[46] 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. To enable the creation and administration of a project, the transmission of information is helped by a common mode of sharing where everyone in the group has access to all the documents or archives. Ideally, it would be an open system, or a dynamic set of tools that is used and cared for, where people could add, edit and manage information and track changes that are made. Such a system can be monitored by the network. An added bonus is that if someone leaves, the project can continue because the content and information is always accessible and part of a larger network. Such a structure allows people to take control of a shared project, thus obtaining meaning from their 'investments'. To be able to share information and benefit from experience and insight gained elsewhere, for example, in other networks dealing with similar issues, a network should be dynamic such that individuals can easily move between networks and projects can be merged or split into separate smaller or more specialized groups.

Similarly, as mentioned, in addition to user contributions Neddam has also created several objects, performances and presentations that she considers part of *mouchette.org* (Dekker 2011a). When I asked her about the 'collection' of *mouchette.org*, she replied

> 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.[47]

Although Neddam's loss of memory could be questioned, it highlights that, for her, the concept of the work is the most important aspect of *mouchette.org*. Neddam stated:

> Mouchette was about creating a form. 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 2011a:22)

Knowledge about Neddam's project is distributed across different (groups of) people, where each person knows something, but not everything. In other words, no single element contains the 'whole' story. Neddam uses relationships and situations as means to produce and distribute *mouchette.org*, as well as exemplify her message. This 'social life' of the project is important for conservators.[48] It is

something they will have to take into account and can benefit from. As Kathleen Fitzpatrick argues, a future conservation of digital objects may be 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. [. . .] Context is equally important, and equally volatile, in shaping our understanding of the production, circulation, and preservation of digital texts.
>
> (2011:126)

A dispersed network of knowledge with a non-hierarchical structure emphasizes localized knowledge, avoiding standardization and ensuring variability rather than creating a freeze state. Whereas several networks around artworks or between organizations and museums already exist, and some of them such as Inside Installations, Matters in Media Art, Variable Media Network and INCCA are, or have been, very successful, none of them have explicitly recognized or framed their work as 'using' the potential of 'collective individuation'. To briefly return to Simondon (1992), in collective individuation, relations to others, to self and to technical ensembles are knotted together through processes of individuation. In other words, something becomes in relation; it 'emerges' from processes of becoming that are instantiated by differences. This also means that something, a technology for example, is never final or complete – it is contingent, depending on variables such as personal backgrounds, intentions, competencies or other contextual restrictions.

   As for *mouchette.org*, I have not been able to trace every element of the website, nor will a future conservator be able to do so. However, this might not be necessary. One scenario could be that a community takes control of *mouchette.org* and ensures its continuation through different versions. Some parts could be physically archived or digitally stored in archives and museums; others could linger and evolve between various networks. Some of it will be automatically cached through crawlers.[49] Stories could continue to be told through multiple authors and caretakers. Because Neddam does not want to control its growth, *mouchette.org* could keep generating more objects, events and comments. Together with communities that are growing around the website, *mouchette.org* is a circulation of stuff, experiences and sharing that started at some point and progresses without a fixed plan.

Collecting *mouchette.org*

In 2016, two decades after *mouchette.org* was first presented, MOTI Museum in Breda and the Stedelijk Museum Amsterdam asked Neddam if they could acquire *mouchette.org*. Neddam's ideal of 'conservation becomes creation of something new' was put to the test. In December of that year I had several discussions with Neddam and Ward Janssen, the initiator of the acquisition and curator at MOTI. The usual questions came up: what is the work, how can it be maintained, stored,

etc. However, the sheer number of projects that make up the website, and the fact that it is a 20-year-long project – and continuing, exceeded the budget by far. So Janssen suggested buying a specific project or part of the website, something that could be shown by itself and offline. Neddam did not agree. Although it was possible to sell parts of the work, as she had done in the past, this time she wanted the acquisition to be on the terms of *mouchette.org*. As mentioned, the website is developed in a way that all the projects interlink. However, they all connect to the database, which to Neddam forms the core of the work: the point where all the actions come together, and more importantly where the communication and information about the work is stored. It was difficult to explain that it is not merely the aesthetics, form or media, but the underlying database that needs to be conserved. Moreover, as Neddam argued, the conservation had to be done in the sense of a living database, or as 'generative preservation' as she came to call it: a method that acknowledges the human input (in creation and maintenance) and stresses notions of growth and expansion instead of repetition or replication.[50]

With the museums unable to acquire the whole work or parts of it, Neddam suggested approaching the acquisition process in different phases. For the first phase she proposed selling the museums a version of the website *mouchette.org – Version 01*. The concept of 'version' rather than 'edition' was important, because it signalled the time and the variability of the work, as well as its ongoing development.[51] As such, Version 01 would be a 'date-stamped' mirror site of *mouchette.org*, together with documentation of the work at various times and in different ways (for instance, historical imagery and a screen capture video of the working of the site). In preparation for the second phase, supported by the museums, Neddam will investigate how the participatory aspect of the work can be transferred to others, potentially in the form of a network of care and/or by teaching someone else how to maintain the database. Also, by examining methods used by performance artists, for example, the ways Tino Sehgal transfers the knowledge about a performance to the museum; how to involve the larger community around the website – questioning and testing the value of a network of care; investigating new methods such as the blockchain and version control system for tracking changes over time – addressing the consequences of adhering to the method of versioning, while at the same time being open for other acquisitions to happen. The discussions showed the willingness of museums to follow the wishes of the artist, trying to conserve the work by allowing it to continue and change, and relinquishing the idea of a fixed version.

This chapter has shown that the resilience of net art is built and distributed through a complex and interrelated system of networks that present an assemblage of artistic, technological, political, and social relations which merge to form a variable entity. Information is produced, presented and distributed differently. Such changes impact knowledge and power relations. A focus on variability, different types of authenticities and processes opens different paths and options. Guattari (2009[1966]) proposes a paradigm in which areas that were previously not concerned with aesthetic interests have proliferated into or exploited aesthetic modes of operation. These trajectories, following Guattari, can expose and reform

traditional conservation strategies by exploring various paths uncovered during the process. Consequently, a conservator should look for different strategies. Some elements of a work can be easily conserved, like posters, code, videos and music; other more ephemeral or performative elements can be documented. In conservation, multiple trails have to be followed, not single paths. Inevitably, this raises the question of whether conservators (and it could be argued conservation practices as a whole) should shift their focus from the conservation of materials to the conservation of social information and relations. And if so, would s/he still be the right person to do this? Is this still considered conservation? Does conservation need to be re-thought?

Notes

1 For more information, see www.skor.nl/eng/site/item/identity-works.
2 Martine Neddam, personal conversation, 14 August 2011, Amsterdam.
3 The notion of 'freezing' refers to conventional conservation theory where objects and materials are halted, 'frozen' in time, signifying a particular state of an object.
4 Despite varying definitions, to be eligible for inclusion in the UNESCO World Heritage List, an object or building needs to meet certain 'conditions' of authenticity; see the Operational Guidelines for the Implementation of the World Heritage Convention (November 2011). The guidelines for authenticity are based on the Nara Document on Authenticity and can be read in sections 79–86. (Website http://whc.unesco.org/archive/opguide11-en.pdf).
5 For an elaborate account of the different 'authenticities', see Ex (1993). For more information about the challenges of authenticity, see, for example, Pye (2001:57–76). A more critical note on the principle of authenticity is given by, among others, Cosgrove (1994) and Phillips (1997).
6 For more information about why Neddam decided to announce herself as the author of *mouchette.org*, see Connor (2016).
7 In the early days of public access to the Internet there was a lot of play around identity formations. This historical framework already gives the first clues as to the dating of mouchette.org. For more information, see, for example, Turkle (1995), who studied the way people interact on so-called MUDs and role-playing games on the Internet; or Hershmann (1996), who assembled provocative voices of the Digital Age that grapple with the direction of digital technology and its concomitant issues, including virtual identities and the relationship to the physical self. Hershmann is known for her identity artworks, from the early *The Dante Hotel* (1973–74) and *Roberta Breitmore* (1974–78) to *Agent Ruby* (2002-) and *DiNA* (2004-); her investigations and exploration of identity include performances, film and net artworks. Such identity play was far less common in the 2000s where being online revolved around having a real identity. This is not to say, however, that online identity is reliable. People often mask their identities (see Wiszniewski and Coyne 2002).
8 Computers are well-known metaphor machines. The interface is especially dominated by metaphors. Just think of the desktop, trash bin and file folders. But computer metaphors also affect the way the computer is experienced and conceived. This was the case with mouchette.org when the French police accused Neddam of providing suicide kits for children. In response, she removed the French version of the project (www.digitalarti.com/en/video/wj_spots1_42_martine_neddam_aka_mouchette). For further analyses on the use and influence of metaphors, see among others Weizenbaum (1976), Lakoff and Johnson (1980) and Chun (2011:55–95).

9   GIF is short for Graphics Interchange Format, a standard for the storage and transmission of raster-based graphics information. The format supports up to 8 bits per pixel for each image, allowing a single image to reference its own palette of up to 256 different colours chosen from the 24-bit RGB colour space. It also supports animations and allows a separate palette of up to 256 colours for each frame. It was created in 1987 and widely used on the Web because of its wide support and easy portability. For more information, see www.w3.org/Graphics/GIF/spec-gif87.txt.

10 Similar to the flowers, the fly and ants are obvious references to phenomenological symbols used in art. In Western traditions ants are symbolic for arduous workers, humility, good organizers and regarded as having access to secrets. Flies on the other hand signify death, and therefore are also symbols of the soul. For more information, see Werness (2006[2003]:8–10, 181–3), and Impelluso (2004) on the use of flowers in art.

11 According to the page information, the image has been scaled from 357 x 340 (the original size) to 1280 x 1024, enforcing the pixellated abstraction of the image. This is also done with other images. For example, the 'cat' image or the pornographic images render the action on the original images almost invisible. This way of abstracting images, if well used, is also a means to make people less recognizable in random images – a strategy that is used in Google Streetview.

12 Although the term 'brand' is mostly seen as a market modality and is used in economics, the way a brand mediates through organization, co-ordination and integration of information closely connects to the way mouchette.org (and other net artworks) operates. Lury understands branding from the perspective of a 'culture of circulation', a process coined by Lee and LiPuma (2004). In Chapter 6, I explore the usefulness of this term and its approaches in relation to net art.

13 By emphasizing the use of information to organize relations between products, Lury relies on Latour and Woolgar (1986) when stating that it is those relations that comprise the object of the brand (2004:3).

14 Martine Neddam, personal conversation, 14 August 2011, Amsterdam. For more information about her maintenance struggles, see Neddam (2010).

15 Some of these challenges are also encountered in contemporary art such as installation art, video art or gaming. For more information, see Depocas et al. (2003), who argue for 'variable artworks'; Van Saaze (2009), who describes how installation art influences traditional museum collection and conservation practices; the three-year research project Inside Installations (2004–7) www.inside-installations.org, which provides practical and theoretical guidelines for the conservation and presentation of installation art; Winget (2008b), who analyzes the conservation of games; and Richmond and Bracker (2009), who argue for an examination of the 'principles, dilemmas and uncomfortable truths' of contemporary conservation.

16 Another example is Glitch art. A glitch originates from a technical error, which may be planned or the result of an accident. Although Glitch art is not confined to software, it has become a prominent software aesthetic. For more information, see, among others, Menkman (2011).

17 Martine Neddam, personal conversation, 14 August 2011, Amsterdam.

18 Author's translation from German: 'Dies alles sind bereits Hinweise auf die literarischen Möglichkeiten des Netzes, sich im Gewebe des Internets in den Bahnen der Fiktionalen zu bewegen und sich im Spiel der Geschichten eine eigene, andere Identität zu erfinden. Nur übersteigt die Site die Anwendung derselben bis hin zur Reflexion über diese "Mechaniken" der Selbst-Konstruktion.'

19 It needs to be said that the level to which someone can become Mouchette, in other words the extent of Neddam's editorial influence, is not transparent.

20 Martine Neddam, personal conversation, 14 August 2011, Amsterdam.

21 Ibid. It may not seem obvious to name Mondriaan in this respect, especially since his later work is so abstract. Nevertheless, even in those paintings, his 'hand' is extremely important. This is explained in detail in Van Bommel et al. (2012).

22 See also Montfort et al. (2013), who highlights the similarities between coding and movements like op-art and minimalism (2013:78–103).

23 Jürgen Enge and Tabea Lurk, personal conversation, Amsterdam, 25 February 2011. See also Ullman (2013), who offers great insight into understanding software as culture by describing her work as a programmer.

24 See Turing (1936). It needs to be noted that Turing completeness is often loosely attributed to physical machines or programming languages that would be universal if they had unlimited storage.

25 In addition to a whole body of work around the relation between the human and the machine, the gendering of computers and computing is interesting. In this respect, Plant argues that 'women have been the simulators, assemblers, and programmers of the digital machines' (1997:37). Chun, in describing the role of women in relation to early day computing, concludes that women were important in that they (the women working on the 1946 ENIAC – the Electronic Numerical Integrator And Computer, the first functional electronic digital computer) helped shape the functionality of the computer. Still, there was a clear hierarchy present, where women were coders and men programmers (2011:29–46).

26 These languages are more or less independent of a particular type of computer. They are also known as high-level languages because they are easy to read, write and maintain (unlike machine-languages) and are therefore seen as closer to human languages (www.webopedia.com/TERM/H/high_level_language.html).

27 Interview Mark Hellar, Smithsonian Institution Time-Based and Digital Art Working Group: Interview Project, 14 June 2013, www.si.edu/content/tbma/documents/transcripts/MarkHellar_130614.pdf.

28 DiNA is an Artificially Intelligent character; capable of evaluating current news events on the Internet and relaying them immediately to users, and recognizing users' names, questions and even voices. Ultimately she could change her mood to correspond with whether she liked a user or not (www.lynnhershman.com).

29 Martine Neddam, e-mail correspondence, 12 August 2012.

30 As confirmed by Joanna Phillips, conservator at the Guggenheim: 'within the conservation community, and the larger museum world, there is no consensus on what components and information to request when acquiring a computer-based work into a collection; how to create complete copies of artworks while considering their software and hardware dependencies; how to identify and describe these dependencies; what metadata to create and save, how to document the functions and behaviours of a work; and what those workflows should ideally look like' (Dover 2016).

31 Why Strachey experimented first of all with love letters is unknown. Although, it is speculated that they are parodies of normative expressions of desire, given he and Turing's then forbidden sexuality (Wardrip-Fruin 2011). They are also thought to be unbound from a sense of 'appropriateness'. These are 'fun' acts that offer insight into a history of curious and free exploration (Goriunova 2014). For more information on Alan Turing, see Hodges (1983).

32 This type of fun is often seen in official or formal settings; i.e., the fun of exploring, trying things out and playing jokes on fellow developers (Goriunova 2014).

33 Wardrip-Fruin (2011) provides a detailed analysis of the generator processes of LoveLetters in relation to the meaning of the data.

34 The abbreviation MUC refers to Manchester University Computer.

35 Strachey's notes and papers are conserved in the Special Collections and Western Manuscripts section of the Bodleian Library, Oxford University. The emulator can be found on Link's website at http://alpha60.de/research/muc/.

36 Link recounts that one of the latest finds was an original switch board in a chicken farm, unused for many years but still in good shape (personal conversation, Bristol, September 2010).

37 See, among others, Dekker (2010:7.0), Winget (2008b) and Benford and Giannachi (2011).

38 Personal conversation with Martine Neddam and Niek Reus, one of the programmers of mouchette.org, Amsterdam, 14 August 2011.

39 This process is perfectly exemplified by experiments on a single line of vintage computer code, the 10 PRINT, or the extremely concise BASIC program for the Commodore 64 (Montfort et al. 2013).

40 It is important to note that Link tried to re-create the social part of the installation. During the production talks, he proposed to look for an original desk setting that could be used in the presentation. However, neither the budget nor the exhibition setting allowed for these variations.

41 Bresson's wife didn't see the work as an adaptation, but as a contradiction to the film's narrative. More surprising, the letter was addressed directly to Mouchette, believing she was a real person. By replacing the quiz (in its French version) with the letter, Bresson's wife became part of the experience and the narrative of Mouchette. For more information, see Mackrous (2011[2009]) and www.mouchette.org/film/.

42 Van Saaze describes the network as consisting of 'temporary and active communities comprised of practitioners, academics and non-experts operating on different, though at times connected, levels: locally (municipal officials, contractors, land owners, cultural entrepreneurs) as well as nationally and internationally (artists, museum directors, curators, governmental officials, collectors, the estate)' (2012:82–3).

43 By using the term 'care', or 'caretakers', I am referring to care as described by Mol (2008) in her ethnography of health care. In this sense care as a practice involves political, economic and institutional power relations, but more importantly care is not a matter of making well-argued individual choices, it is something that grows out of collaborative and continuing attempts to attune knowledge and technologies to diseased bodies and complex lives. Mol makes explicit what it is that motivates care: an intriguing combination of adaptability and perseverance.

44 http://myboyfriendcamebackfromth.ewar.ru/.

45 For more information see Sakrowski and Štromajer (2017).

46 I am following the method proposed by Hui and Halpin (2013) who analyzed online collective social networks like Facebook and made suggestions for alternatives that would allow people to work together towards common goals.

47 Martine Neddam, personal conversation, 14 August 2011, Amsterdam.

48 I borrow the term 'social life' from Seely Brown and Duguid. In *The Social Life of Information* (2000), they argue for a stronger emphasis on the context of social networks around information. Information, they argue, only acquires meaning through social context. Similarly, Kirschenbaum advocates the importance of social dimensions in conservation of digital media, which is 'at least as important as purely technical considerations' (2008:240–1). Conservator Glenn Wharton (2011) examines professional authority and community involvement with a civic monument that shows the benefits of involving public participation in conservation. Also Laurenson and Van Saaze (2014) conclude with reference to the conservation of performance art that the live-ness or non-materiality of performance art is not the main challenge; rather, what these works require is to maintain their memory, i.e., the maintenance of the networks that support the work. Moreover, they mention that such 'increasing dependency on social and political context, people, resources and other transitory circumstances outside the museum goes against the museum's tendency of containment and control, this shift may cause a certain uneasiness and raises new questions' (2014:29).

49 This new situation affirms the need to adjust the way an archive is set up. As mentioned in the previous chapter, archiving is no longer about collecting and selecting, but structuring information. Notions of categorization, metatagging and classification, as Bowker (2007) states, are withering. To keep track of data and information, they will become the prime subject for archiving in the years to come.

50 For more information, see http://about.mouchette.org/preservation-generative/.

51 As clarified in the contract: 'The Version is as such a momentary copy, as archival definition and clarification of the interactive and artistic integrity of the source work, in a specific time frame, dated.'

Collecting and Conserving
Net Art

Moving beyond Conventional Methods

Annet Dekker

Contents