Programmed Capitulation?[1]

On the Necessity of Conserving «Pattern Primer One» by Paul Panhuysen

By Matthias Kampmann

«Its hard to say how a ghost from the past will fit in the future present.»
Josephine Bosma: Nettitudes. Let's talk Net Art. Rotterdam (NAI Publishers) 2011, S. 164

I first stumbled across the British journal «Artifice» by chance in a bookshop on Savignyplatz, Berlin, in 1995.[2] Sealed in shrink-wrapped foil, the cover-sized journal with CD-ROM supplement loomed large in the entrance area. I recall the purchase very well. I was thrilled to now be in possession of an art journal with a data carrier. The two leading proprietary operating systems on the market facilitated moving through various works by different artists, and to thus, among other things, adapt «Pattern Primer One» by Dutch sound art pioneer Paul Panhuysen. In this early phase of multimedia, reactive programs were programmed primarily by way of the authoring system Director produced by the software company Macromedia, which had been bought out by Adobe towards the end of 2005, and thus included Panhuysen's work.[3]

In the 1990s, the distribution of data-carriers was the prerogative of publishers and computer journals. The art business had only recently begun familiarizing itself with the medium. Generally speaking, at the time CD-ROMS tended to be the exception. However, again at that time, media production in the form of moving representation with reactive interfaces was increasingly on the rise. René van Binsbergen, who implemented «Pattern Primer» in Director, summed up the zeitgeist thus: «At the beginning of the 1990s ‹mixed media› productions appeared on the scene. All of a sudden artists had new possibilities at their disposal for reaching every public. I well remember how this suddenly dawned on the many museum staff, artists, and designers, when I presented the possibilities for producing one's own interactive content. Though everyone laughed they all acknowledged the potential. Paul Panhuysen likewise became an overnight fan of the playful creativity of this new medium. He foresaw how his theoretical approach to working with magical squares could become alive. When I demonstrated how one could also work with sounds his joyous enthusiasm was almost childlike! He was so enthusiastic about it!»[4]

Bearing in mind the art-historical background, it thus seemed a logical enough that Paul

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2 Artifice. Architecture, Film, Theory, Photography, History, Art and Things, Issue 2, London 1995 (ISSN 1357-0498).

3 See. http://de.wikipedia.org/wiki/Adobe_Director (visit 04.09.2014) as well as (to be read with caution due to the proximity of the author to the software sector) on another culture technicalogical evalution Lev Manovich: Software Takes Command. New York, London, New Dehli, Sydney (Bloomsbury) 2013, p. 44 and, above all p. 159-195.

4 René van Binsbergen in an email to the author from August 12, 2014. All additional quotations derive from this email.

Panhuysen would focus the full energy of his thought through multimedia. As René van Binsbergen sums up: «His idea of *Magical Squares* is in reference to the ways in which numbers are visualized. Although, around the time ‹Pattern Primer› was developed I was unable to have recourse to Paul's experiences, I was fascinated by his manner of working. His immensely comprehensive body of work, and his ideas of rendering all things invisible visible, was an eye-opener. So, how *does* one translate a work into a piece of multimedia, in which numbers are made visible, audible or tangible? The new media made it possible to play with *magical squares*. This goes way beyond their mere representation. Paul found it fascinating to explore all these new ways. He made it possible for us to experiment with colors and sounds. This was a joint effort which finally culminated in something called the ‹Pattern Primer›.»[5] This situation, this intellectually inspiring climate is best accounted for by considering the possibilities available at that time.
Clearly, historical, conservational consciousness and thought in general with respect to digitalization was still evolving during the 1990s.

In hindsight, the publishing plans, backed by the Bartlett School London and University College London, appears anachronistic. Much like the compact cassette, the CD is dying an inexorable death, while software has long-since been obtainable from the Internet and remains poised in the Cloud. Neither can one ignore the fact that at that time such undertakings would hardly have been promised a lengthy and sustained life. The conservational neglect for the necessity of securing objects testifies to the dearth of awareness with respect to cultural heritage. It still took a good five years before there was tangible awareness for the problems surrounding conserving and restoring works of digital art among media art circles. One of the first projects on the conservation of digital art in German-speaking countries was the conference «404 Object Not Found – What Remains of Media Art?», organized by Hartware MedienKunstVerein, Dortmund, in June of 2003.[6] Numerous companies – at the ZKM, as part of «digital art conservation» (2010-2012)[7] – have since also orbited the problem and increased awareness. And yet, it would seem as if «Pattern Primer», this incunabulum, this treasure of reactive art, has yet to appear on the restorers' radar.

Today, it is only possible to experience the work on two conditions: with an antique PC or in emulation. This was the drama that triggered efforts to make this wonderful work by Paul Panhuysen and programmer René van Binsbergen an object of examination and re-engineering as part of the project ArtOnYourScreen (AOYS).[8] Hence, these days, the work remains forever concealed from whoever happens not to have a computer equipped with antiquated operating system at his disposal, and who has otherwise limited abilities for dealing with so-called emulators. What is required, according to «Artifice» (p. 6) is a computer with a PC-CPU 486 DX33, eight MByte memory, MS-DOS 5.0 or Windows 3.1, Quicktime 2 for Windows and suitable monitor, a graphics card with at least 256 colors (SVGA resolution – at least 800 x 600 pixels), or Apple Macintosh with 8 MByte RAM and Quicktime 2, system 7.0 and color possibilities similar to the PC. An emulator such as Basilisk II – which, with Linux or other operating systems, is capable of bringing an antique operating system to runability by way virtual machines – can overcome the

5 Ibid.
6 See. http://www.hmkv.de/programm/programmpunkte/2002/Veranstaltungen/2002_404_Forschungsprojekt.php (visit Sept. 4, 2014).
7 See http://www.digitalartconservation.org (visit Sept. 4, 2014).
8 See http://aoys.zkm.de/pattern-primer-one/ (visit Sept. 4, 2014).

hardware hurdle.[9] Unfortunately, operation frequently drags a great many trials and tribulations along with it. Computer users with average know-how encounter initial difficulties. Similarly, such complex environments are only partly suited to exhibition purposes, since they are incapable of guaranteeing sufficient stability. And it is just a matter of time until it will be no longer possible to develop the emulators (the last official version of Basilisk II, for example, dates from 2006), because somewhere along the line the community is bound to lose interest in the survival of historical systems. Consequently, the «Pattern Primer» will not only become history, but, quite simply, be lost – all the more so since the original files have long-since overstepped their artificially imposed expiration date. In other words, what we have here is planned obsolescence, the profit-oriented and historically short-winded sector of the software industry: worrying about the future from the standpoint of the user is not part of the program. Why should Silicon Valley also be interested in ensuring such cultural productions' right to survive? It would be economically counter-productive. On the contrary, the Director Program version 4 even inhibits opening version 2 completely and correctly!

Recently, Johannes Goebel quite rightly wrote in the CRUMB mailing list «New Media Curating», that, much like performance, digital art is time-based. Hence, it has an expiry date and does not, furthermore, conform to the schematic, object-centered thought typical of most museums. Moreover, that documentation is of greater importance than ensuring runability of the work itself. In this connection, he remarks, most institutes suffer from a lack of time and expertise for sufficiently conserving and documenting works. «While we are all in possession of digital devices we do not have the power to even port data and programs through more than 3-5 generations of devices or through 2-3 generations of new operating systems.»[10] By analogy, he means that it is alright to make an effort to conserve, but then goes on to fatalistically conclude: «How great (seriously) now we have digital art, which has an inherent expiration date. Maybe that is what is meant by ‹artificial life›.»

A complementary contradiction: Naturally, Goebel, who was director of the Institute of Music and Acoustics at the ZKM between 1990 and 2001, emphasized its role and possibilities with respect – and in dedication to – the conservation of works of digital art. And precisely because of this, and because the re-engineering of «Pattern Primer» took place as part of a ZKM project, the following is noted. In an entirely private connection, before starting the AOYS project, I would often click through the work at irregular intervals. When buying «Artifice» in Berlin, the operating system version 7.5 ran on my Mac. Before turning my back on Apple products following the expiration of the support for Mac OS X 10.6.8 «Snow Leopard» (till 2011), I could view the «Pattern Primer». In other words – by way of a few tricks – I was able to bridge a good ten operating systems. In conjunction with this, the emulator Basilisk II on my Linux system operated, among others things, with Mac OS 7.6.1. Therefore, the CD-ROM by «Artifice» may still be used. And hence, the original data base has now been functional for a total of nineteen years. Naturally, the situation is entirely different where the software is viewed on a 800 x 600 pixel, small cathode ray monitor, or on an LED display with a resolution of 2560 x 1080 pixels. And yet, following

9 See http://basilisk.cebix.net and http://de.wikipedia.org/wiki/Basilisk_II (visit Sept. 4, 2014).

10 See https://www.jiscmail.ac.uk/cgi-bin/webadmin?A2=ind1406&L=NEW-MEDIA-CURATING&F=&S=&P=54877 (visit Sept. 4, 2014). All further quotes were taken from the list of contributions cited here from June 28, 2014.

Johannes Goebel, the performative has to be accounted for. We have no sound recordings from the sound context of the performance of a classic symphony at one of Europe's courts, for example, and there are still continual histories of performance and interpretation. However, this should not be more than metaphorically transferred to technical devices. Had the ZKM not commissioned me to curate the AOYS project, then, privately, I would have probably been compelled to experience «Pattern Primer» per Emulator – proof enough of how much work has yet to be carried out in conserving digital incunabulum in the private sphere and in transferring it to a publically structured one.

AOYS opted for an alternative approach to emulation, namely, that of reverse engineering.[11] This approach denotes the programming reenactment of all qualities, functions and routines of a program. Furthermore, it is also ported in another programing language (HTML5, JavaScript). The work, with regard to the starting point, should illustrate the 1995 status and, both in usage as well as perception exhibit no differences to the «original». As a reminiscence of technical development, however, «Pattern Primer» should also be extended: Web capability. There reasons for this are self-evident. With the increasing predominance of the HTML fifth version, the programming of graphic Web-interfaces is set to be substantially simplified and made multi-media capable.[12] According to the new standard, for example, computing processes are to be provided on the client's browser, whereby many elements must no longer be specifically downloaded from the Internet. Furthermore, the languages and the extensions of these guarantee openness, which also means transparency regarding the algorithms so as to ensure that the code remains transparent and comprehensible in any future adaptations. Only under such conditions is the software ensured maximum portability and compatibility. This is owing to the fact that open-source software will only have a certain future where the code remains depicted and adaptable to other languages, since what slumbers in vaults cannot be analyzed.

And yet, as investigations have shown, hurdles were thrown up even in the case of «Pattern Primer» – an apparently relatively easy work to implement – the massive foundations of which, from the vantage point of art history, demonstrate how software companies pursue a disastrous policy with respect to the abuse of knowledge. When research began, there was precious little apart from originals and functional data carriers. The work can and could be experienced with the above-mentioned emulator, even where present-day monitors no longer gave that impression. The question as to whether the output device is a cathode ray or an LED screen is only a relative distinction. Following initial exploratory discussions with Karlsruhe media and programmer Nikolaus Völzow, it transpired that the supplementary software delivered with the journal only allowed for indirect inferences to all parameters. Thus, by way of a precise, detail-rich description with the aid and exchange of screencasts, an attempt had been made to reconstruct the «Pattern Primer» archaeologically, as it were. At the same time, as the work's programmer, I researched whether, if at all, the related product files the work existed on CD ROM in addition to the «ProjeCtor». This also included the demand for graphics and sounds.

In their archives, the universities, their libraries, or Paul Panhuysen were not in possession of the

11 See Peter Rechenberg, Gustav Pomberger (ed.): Informatik-Handbuch. Munich (Hanser) ^{4}2006, p. 821.
12 For the most recent additions and specifications from HTML5 see. http://www.w3.org/html/wg/drafts/html/master/ (visit Sept. 4, 2014).

original files in Media Tools Macromedia Director. Chief Editor of the journal, Duncan McCorquodale, was also unable to offer further assistance. Following a search at several places via the former Agentur Opera, which had commissioned to program the software, I managed to track down designer René van Binsbergen, the current project director of digital communications at the Design Academy Eindhoven. Fortunately, he was willing to take on the task of investigation and actually managed to locate the source files. However, yet another hurdle was thrown up: although the various files could be processed with up-to-date versions of the authoring tools – at least in part – the imbedded sounds and visuals could not be processed and, rather treacherously, presented a number of difficulties during extraction. Here, a detour had to be taken via Screenshots/Bitmaps. Accessing the original material today is no less difficult, since the sounds originate from providers of so-called stock-databanks. I thus manage to lay hands on all the sounds as a data stream directly from the sound card hardware. This, then, prompted further questions of detail, such as whether mono or stereo sounds were involved. The latter require more memory. This is important because when downloading the page all sounds have to be copied from the Web into the main memory so that unnecessary interruptions could avoided due to reloading. Nevertheless, implementation takes some time before all 26 files are ready to use. To avoid overtaxing the user's patience, Nikolaus Völzow introduced a decent, though not original progression bar at the lower edge. Paul Panhuysen authorized this. Other rules were valid for mobile devices, such as the specific approval for downloading the sounds. This fact was also accounted for.

Furthermore, all scripts in Director-specific language Lingo[13] from the program (version 4) were extracted as pure text, so that Nikolaus Völzow was able to determine the structures. Answering questions according to the sign placement was also necessary. Incidentally, the «work» part demonstrates inconsistent program behavior. If one clicks on the spiral and starts «Pattern Play 3», the 25 squares can be initially accessed and thus colored. A further click on the numbers 1 to 8 on the vertical number sequence below left leads to the new organization of the surface. However, a second click introduces re-entry to «Pattern Play 1». This holds for all combinations. The question as to whether this concerns a bug has yet to be answered. If it is a bug, should it remain in the program for conservational reasons, or should the artist's original intention be implemented?

Incidentally, Van Binsbergen cited another reason for conserving the work: «Today, almost 20 years later, this little game is re-programmed such that it will not be forgotten. Operating systems develop and leave behind a vast data pool the content of which will be forgotten. It is really very thrilling to see that all the energy we put into the small game has not been in vain. I feel that it is still there. This is something very special, something that I do not perceive when observing my children with their present-day devices.» So, even though Paul Panhuysen's work may no longer be familiar, «Pattern Primer» is still a «remarkable work, a work which is here to stay». Furthermore, the reanimation of «Pattern Primer» makes sense beyond AOYS. This is owing to the fact that from an art-historical perspective, the work marks another milestone in the almost one-hundred-year history of geometrical non-representational art, thereby adding to it another facet: the participation in the digital. Gerhard von Graevenitz[14] or Victor Vasarely[15] had already concerned themselves

13 See http://de.wikipedia.org/wiki/Lingo_ (programming language) (visit Sept. 4, 2014).

14 See Gerhard von Graevenitz: white structures, light objects, kinetic objects, games objects (1959–1983). Berlin (Kunsthandel Wolfgang Werner Bremen/Berlin) 2014 and Kornelia von Berswordt-Wallrabe: Gerhard Graevenitz. An art beyond the image. Ostfildern (Cantz Verlag) 1994 (also exhib. cat. Staatliches Museum Schwerin 1994), p.

with changeable objects during the analog era. Hence, where would art-history be without «Pattern Primer One»? However, one further, and hitherto perhaps unnoticed, prime example of reactive, digital art dating from the mid-1990s, is situated in a context which – if we follow Johannes Goebels – has been buried. From the point of view of the historian, this is, quite simply, an inacceptable state of affairs.

An approach that meets a sufficiently structured restoration standard is not possible in connection with ArtOnYourScreen. A complete documentation would have required an entire staff of its own. However, a start has been made, and it may well be possible that a suitable project will fill the gaps. However, opening this wonderful work has, at least, been possible, and such that it is also an option for coming generations of programing languages in a future far removed from emulators – and, thanks, no less, to Nikolaus Völzow, in a manner very close to the work. It is to hoped, therefore, that the code which thus originated will continue to receive due care, and that this chapter of art may also serves as evidence that the proximity of connections between digital and analog art is far greater than the initial hype surrounding multimedia back in the 1990s would suggest. Hence, contrary to Johannes Goebel's view, we are not categorically condemned to cede to the probable transience of the digital arts.

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103 f.

15 In other words, Victor Vasarely did not intend a computer-controlled «art machine», and yet he did consider their potential with an eye on combinatorics and permutation, and reflected on the possibilities of one. See Richard W. Gassen: Vasarely. Inventor of Op-Art. Ostfildern-Ruit (Verlag Gerhard Hatje) 1998 (also exhib. cat. Quadrat – Bottrop Josef Albers Museum, May 17-Aug. 23,1998), p. 184 f.