"If You Can Read This…" – The Evolution of the Scroll Text Message Within the Demoscene

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Abstract

While moving typography in general had been a creative scope since there were moving images, as a vital part of the graphic design of commercials and movie titles, the scrolling "ticker" rarely received the praise of artistic adaptation. It served merely as a workaround for printing long messages using the limited space of a computer monitor, to wrap a one-dimensional line of text around a two-dimensional screen medium and, to this day, is associated with cheap closing credits of tv shows and stock market data on a news channel. This article traces the evolution of moving text as a stylistic element of "crack intros" and "computer demos" between 1984 and 1992, from a simple line moving from left to right at the bottom of the screen to massive 3D letters free-floating in space. Until the early 1990s, when text messages began to disappear from demos, the demoscene turned out to be the most explorative and innovating culture ever to use the scroll text as an artistic device.

Keywords: scroller, kinetic typography, demoscene, crackers

Introduction

The computer demoscene has received quite some attention among scientific researchers in recent years. Many investigations concentrate on the origins of the movement, the software cracking scene of the 1980s and base their argumentation on the analysis of the artifacts of these cultures, so-called intros, which were placed in front of pirated computer games, and demos, independent audiovisual presentations running as executable computer programs (Polgar 2005). It has become an accredited belief to regard these productions as both

communication media and artistic statements of the scene, which seems obvious regarding the nature of cracker intros and early demos as works combining text, image, and sound (Reunanen, Wasiak, and Botz 2016).

But still the demoscene is considered as a marginal underground phenomenon of the home computer age and especially the visual output of the scene has rarely been the subject of academic studies, which is remarkable when dealing with a subculture that clearly defines itself for its creative productivity and has done so for over 30 years now. It seems that in most cases, the visible elements of style and artistic expression of a subculture are only examined in detail when they reach popularity outside the scene and surface in mainstream fashion. And in the case of the demoscene, this never happened.

Like in many "deviant" cultures, the artistic innovations of the demoscene do not originate from nowhere. They are mostly based on subcultural appropriation, sometimes transferring the aesthetics of popular movies, graphics or video effects to the limited capabilities of the common household computer hardware and combining them in a specific way into an audiovisual presentation for real-time operation (Reunanen, Wasiak, and Botz 2016, 813). In some cases, however, stylistic devices develop a life of their own when adopted by a subculture. They can evolve from a marginal supporting role to a leading motive, from a simple communication tool to a fetishized object.

This overview traces the evolution of the scroller, a text line moving across the screen, inside the demoscene, from a technique for displaying text generally disregarded for its poor aesthetic appeal to one of the most complex artistic forms of moving typography, a development unparalleled in the history of computer graphics. It will try to answer why scrollers came into existence, how they changed over time and why they disappeared all of a sudden, showing that the fate of this form of moving typography was mainly depending on four factors:

1. The rise and decline of the cracktro/demo as a communication device.
2. The competitive character of the cracker- and demoscene, which demanded higher visual complexity and more spectacle in each new production.
3. The technological progress of hardware platforms, which allowed for more flexibility

to create computer graphics.

4. The development of the pictorial space in computer demos.

5. The changing forms of presentation and perception of demos.

The Scroller as a Communication Device

On looking through various texts about demoscene art, the scrolltext or scroller is regularly mentioned among the "classic" stylistic elements of cracktros and demos (Reunanen 2010). This is indeed noticeable because this specific way of displaying information neither developed any design traditions outside of the cracker-/demoscene nor has it ever received considerable recognition as an artistic element in general. On the contrary, while shifting a large text page upwards at least qualifies as "big movie ending", the rolling single line at the bottom of the screen seems to have a bad reputation altogether. Game designer Richard Rouse III complains about the inconvenience of reading scrolling text in the mission briefing for computer games (Rouse 2005, 209). German media art authority Peter Weibel compares it to annoying non-stop-music rushing past the ears (Weibel 2000, 159). It is a known resentment even in contemporary web design: The "Marquee" tag in HTML is considered to be one of the most notorious usability faults. And up to this day, the rolling text line at the bottom of a tv screen is unanimously identified with 24-hour news, weather or home shopping channels displaying stock market data.

With this in mind, the question arises: How became this unpopular mode of text display one of the key features in the products of a digital subculture? Like most of the basic style elements, crackers borrowed the principles of text organization for their intros from the title screens of early computer games (Reunanen 2010, 58). But when the cracker scene adopted the scrolling text, there was actually no big tradition to draw on. The arcade machines used to deliver the usually scarce game instructions by unraveling pages of text letter by letter like a typewriter and resorted to flashing words to indicate demand for action, like "Player one get ready!" Home video game consoles like the Atari VCS rarely wasted time for introductory screens and started the game right away when switched on. On early home computers like the Apple II graphical but usually static splash screens were used in front of the games (Scott n.d.).

The emergence of scrollers eventually resulted from a new technical feature – the hardware scrolling abilities of the 1980s generation home computers like the Atari 8-bit series or the Commodore 64. The Atari 400 Version of Taito's *Space Invaders* from 1980 is possibly the first game to feature a scroll text displaying the copyright message and it was the American software house Synapse Software which made regular use of the smoothly crawling text line at the bottom of the game's title screen, becoming a trademark for the company. In games like *Protector II*, *Sentinel* or *Shamus*, this line was used to display the credits for the game, the assignment of keys as well as announcing more forthcoming software titles in the fashion of "Coming soon from Synapse". Like the early crackers used to deface the game's title screen by substituting text elements with their own handles and messages, it did not take long until some of the first cracking groups on the Commodore 64, German crews JEDI and Antiram, occupied the scroller, not only claiming responsibility for the copy protection removal but also shamelessly absorbing the advertisement which was altered to "Coming soon from JEDI", thereby announcing that every Synapse game published will be cracked by the group (see Figure 1).

Figure 1. *Slamball*, C-64 Game by Synapse Software, cracked by JEDI, 1984.

The proud advertising inside the Synapse scroller and its détournement by the crackers revealed a vital potential of the rolling text: The chance to communicate to the viewer beyond

the standard information about the game at hand. While most of the essential instructions for the product appeared as static text to be grasped at a glance, the scroller could be used to grow the corporate image.

Crackers on the Commodore 64 did not limit themselves to mess up the title screen of games like the Apple II scene did. In 1984 the first cracker intros, or short, cracktros, appeared, transferring the crack message into a separate page before the actual game title screen. They consisted of simple – sometimes animated – logotypes and small static text elements. The first cracker intro to feature a scroller is probably the Danish Crackers intro for the game *Ghostbusters* dating from 1984 (see Figure 2). Alongside the close resemblance to title screens of contemporary computer games, it shows the new communication needs: The scroll text displays the member list of the cracking group, an information task which will remain important in the future.

Figure 2. Crack intro by Danish Crackers, C-64 cracktro, 1984.

As the scene transformed into the well-organized business of software piracy, scrollers took on various additional jobs. Sometimes a cracktro featured multiple scrollers simultaneously, each delivering another dedicated content (see Figure 3). The first scroller could be a short message containing the name of the cracked game, the release date plus the enhancements the

cracker attached to it like for example an "unlimited lives" function (Wasiak 2012). The second would often contain the greetings list, which recites the names of respected and befriended groups inside the scene, often in preferential order, or would be used for news, invitations to copy parties, comments on other cracker's releases or ranting at disliked other cracking groups.

Due to this partitioning into multiple independent text elements, cracktros had become modular pieces of software which could be easily edited for use on different cracked games. In this regard, the scroller became the key feature to turn the cracker intro into a communication device for an evolving subculture. It also helped to establish the cracktro as the ideal medium for self-expression within the scene, and it became the best solution for displaying large amounts of information while keeping the graphic layout of the screen intact. At the same time, the cracker's specific use of the scroller revealed a basic characteristic of moving type: The "news ticker"-like volatility, the short time span between the appearance and disappearance of the words implies that the message is new, fresh and relevant, like a telegraph output. On top of that, the scroller forces its own mode of reception upon the reader. The constant flow of letters dictates reading speed and reading rhythm and does not allow for breaks. You cannot take your eyes off the streaming message. A reading experience like watching a movie.

Figure 3. Crack intro by Hotline, C-64 cracktro, 1988 – two simultaneous scrollers.

The Scroller as an Artistic Challenge

Due to the competitive nature of the cracking scene, crackers not only had to be fast at delivering the newest games, they also had to come up with innovative and unique visuals for their cracktros, like skillfully drawn graphics or colorful effects. Cracktros had to look "sophisticated", new and individual in the way they presented information. In the first place, this included everything which set the design of an intro apart from the standard text output of the Commodore 64, which was 25 lines of text, each containing 40 square characters while one character cell consisted of 8×8 pixels. It was possible to generate individual fonts by drawing own characters and combining multiple adjacent character cells could be used to double or triple the size of the letters (see Figure 4). But the greater aim of intro coders was to make scroll text rendering more flexible instead of just moving a single line from right to left. The numerous tricks involved shifting the vertical position of letters according to a sine curve to generate a "swinging line" or applying *color cycling* to the letters, whereby an animated color gradient causes the scroller to flash up and fade out again.

Figure 4. Crack intro by Crack Force Omega, C-64 cracktro, 1988 – scroller enlarged by using 3×3 character cells for each letter.

Good design was not the only consideration while creating intros. Intro programmers on the Commodore 64 tried to test the limits of the machine by coding effects that seemed

impossible by then. Flash Cracking Group and 1001 Crew were the first to navigate their scrollers through the border of the C-64, a monochrome "safety" area around the screen initially designed to prevent the screen content from distortion near the edges of the monitor tube. Placing text where it was not supposed to work qualified as a true achievement. This technical gimmick provided enough sensation to distribute the *borderletter* as an independent production, not longer attached to a cracked game and later to be called a "demo". But just as scrollers were instrumental in creating the demo format, they were also at the heart of competitive demo programming. Coders aimed at producing the largest letters (*megascroller*, see Figure 5), the greatest number of simultaneous scrollers (*multiscroller*) or the largest amplitude of a scroller following a sine wave path (*mega-DYCP*).

Figure 5. *No Limits* by The Supply Team, C-64 demo, 1987 – megascroller.

As scrollers are given such creative names, it can be concluded that they are consciously perceived as design elements. The question remains, however, what defines a "scroller" within the demoscene in contrast to its "news ticker" antecedent. Here, the scroller serves as a good example of the concepts of *genotext* and *phenotext* as popularized by Julia Kristeva. Inke Arns uses these terms to describe the multiple levels of text involved in digital works of the net.art movement (Arns 2004). The genotext is what generates the phenotext. While the visible screen content is described as the phenotext, the executed program code is the

genotext. In the case of a scroller, the genotext can again be divided into three different texts: The character code containing the written content, the font bitmap defining the shape of the letters and the program routine used to display the text controlling speed, path, and transformation of the scroller. As the labeling of scrollers rarely refers to content or typography but almost always to the way of movement across the screen, it can be assumed that the display routine is the most defining element for a demo scroller.

Figure 6. *Megademo 2* by Vision, Amiga OCS demo, 1989 – chrome scroller and distorted scroller.

During the second half of the 1980s a new generation of home computers established itself and, year by year, the activity of crackers and demo artists shifted onto the new platforms among which the Amiga series and the Atari ST were the most popular. With the graphical capabilities of these computers, graphical quality, variety, and flexibility of scrollers increased. The Amiga demoscene gave birth to at least three new types of scrollers: first of all, the improved color management of the Amiga allowed for seamless gradients, which led to the infamous "chrome" style of the late 1980s, where letters featured a mirroring surface, beveled edges and all kinds of metallic gloss. The second innovation consisted of mostly monochrome scrollers being bent and twisted in many ways (see Figure 6). This resulted in

letters winding around a horizontal or vertical axis (*tubescroller*), being partially magnified as if seen through a glass lens or wavelike distorted as if projected onto a water surface. The Amiga scene was very ambitious about challenging the convention of the reading direction with the innovation of scrollers rolling on a circle-like track (*circlescroller*) or following an arbitrary path across the screen (*snurklescroller,* see Figure 7).

Figure 7. *Supersnurklescroller* by Fairlight, Amiga OCS demo, 1989.

The third and most noticeable invention of the amiga scene was the expansion of scrollers into three-dimensional space. Proceeding from simple vector-based line drawings to solid letters, scrollers became increasingly involved in the perspective design of the pictorial space. In *Hunt for 7th October* by Cryptoburners (1990) the words rush past the viewer like a fast train (see Figure 8). After six years of development, scrollers finally appeared as architectural formations, making the reading process a spatial experience.
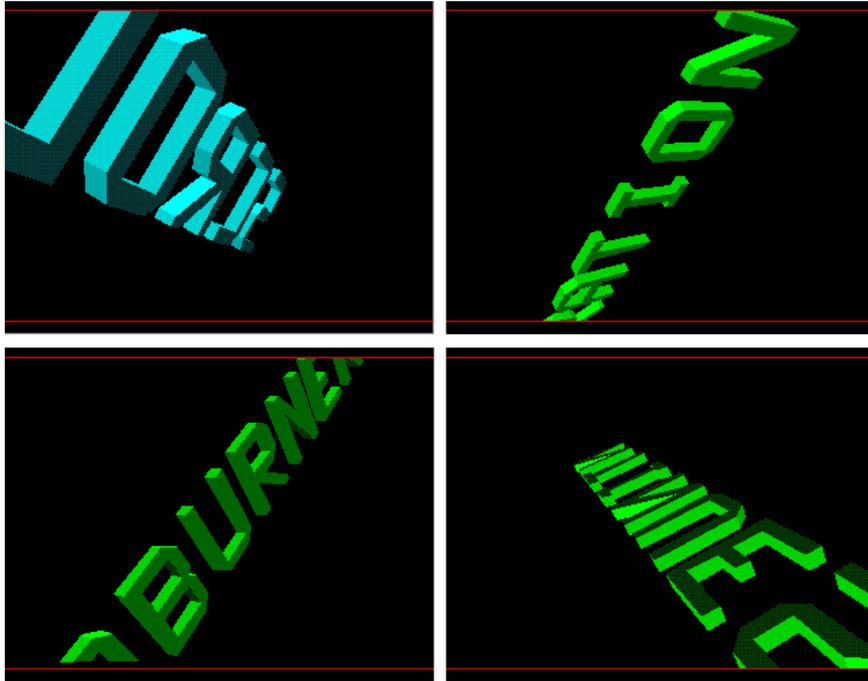
Figure 8. *Hunt for 7th October* by Cryptoburners, Amiga OCS demo, 1990 – the first scroller made of non-convex solid three-dimensional letters.

The End of the Scroller Era

When scrollers entered the virtual three-dimensional space, they had discarded their initial communicative purpose long ago. The distribution of pirated software via BBS (Bulletin Board Systems) began to replace postal shipping of disks and the *file_id.diz* text file took on the tasks of the cracker intro scroller (Reunanen 2010, 10). When demos left the context of the "illegal" software piracy scene behind, the communication needs of the demoscene changed, and so did the contents of scroll texts. Some parts remained, like the greetings list, announcements for – now legal – demo parties or bragging about programming skills. But according to the self-reflective nature of demos, scrollers increasingly tended to comment on the circumstances of their own production. Coders provided explanations of programming methods they used and even a excuses for bugs they could not fix in time (Bader 1990, 184). Various demos feature two scrollers, the first commenting on the artful deformation of the second. Sometimes, the text is aware of its own transformation – "Yeeeaaahh Bouncing!!!", as it reads in *Legalize It* by Vision (1988) – or hints at its own illegibility: "If you can read the following text you are an alien!!!", as in the *Circle Twist* of the *Red Sector Inc Megademo* (1989).

Until the early 1990s, demos followed cyclical patterns. Like the first cracktros, a demo part was an endless loop, in which all graphical and textual elements repeated itself until being terminated by mouse click. The viewer would decide how long to read the scroll text and when to proceed to the next demo part, or, in the case of a cracktro, to the game. But with the increasing popularity of demo parties, where demos are screened to a large audience rather than being watched on a computer monitor by a single viewer, this format was abandoned in favor of linear structures where short segments follow each other without user interaction. In this fast-paced sequence of effects, long scroll texts not longer worked (Botz 2015b, 315).

Additionally, typography was a useful style element within the two-dimensional compositions of early demos but did not match with the consistently three-dimensional pictorial spaces of demos in the mid-1990s. When the demoscene emerged on the PC platform, it inherited most of the style elements of the Amiga scene, but one of the unique characteristics of the PC scene consisted in the dismissal of the scroller, as the catchphrase "scrollers suck" from the demo *Panic* by Future Crew (1992) became a popular slogan (Botz 2011, 353).

Conclusion

In the three-decade history of the demoscene, scrollers occupied a short time span only. For a long time they had been unanimously identified with the "oldskool" phase of the demoscene (Tasajärvi 2004, 65), often disdained as an old and boring demo effect. Today it is possible to comprehend why the scroller had been appropriated by the cracker scene and developed into an artistic category as well as a technical challenge. In a world where digital communication is a daily routine, the scrolling messages of the demoscene appear as an obsolete and romantic format, like decorated letters, which, more and more, detached themselves from their communication function and turned into artistic exercises.
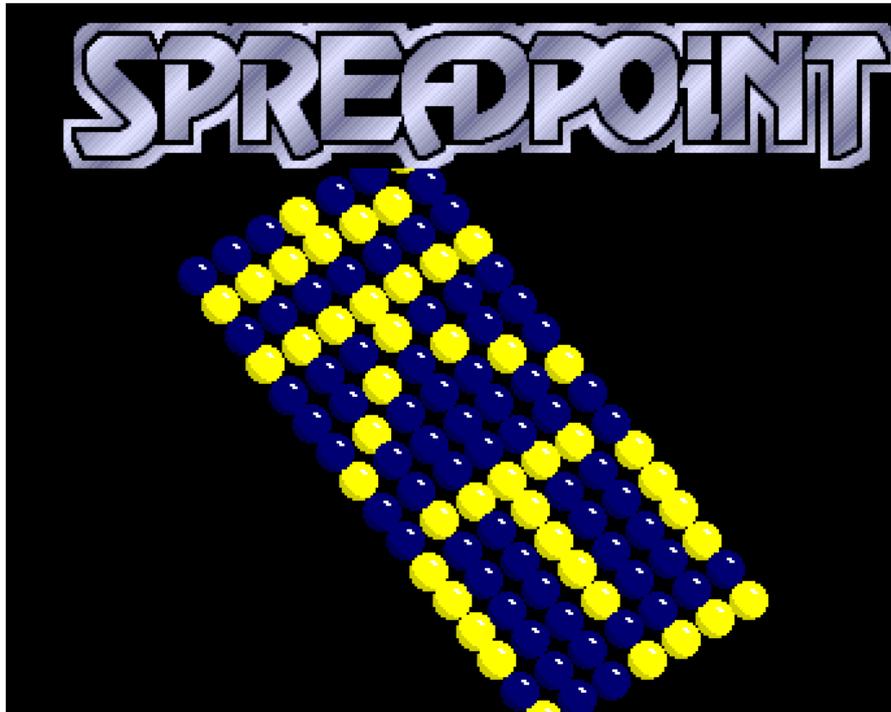
Figure 9. *The Wooow Demo* by Spreadpoint, Amiga OCS demo, 1989 – scroller running on a *vectorball* display.

Finally, in the 2010s, scrollers returned to the Commodore 64 scene. Their comeback on the first demoscene platform, however, is not completely accidental, as almost all of them appear to be further stages of the *low-resolution scroller*, a variant predominantly developed on the C-64 and later on the Amiga (Botz 2011, 352; see Figure 9). This type of scroller functions as a coarse display matrix where each pixel is represented by another graphical element like a bitmap object or – again – a text symbol. If this matrix is being deformed and distorted, the text appears to be rolling on a twisted LED ticker display (see Figure 10).

This marginal return of the scroller, however, reminds us of one of the core concepts of demoscene art: To this day, demos are executable programs which are passed on to the computer as code, as linear text (Botz 2015a, 103). This is what sets them apart from movies. Thus, in very simplified terms, one could say that even if we don't see a scroller on the screen, if watching a demo, we can always imagine a single line of alphanumeric code running inside the machine.
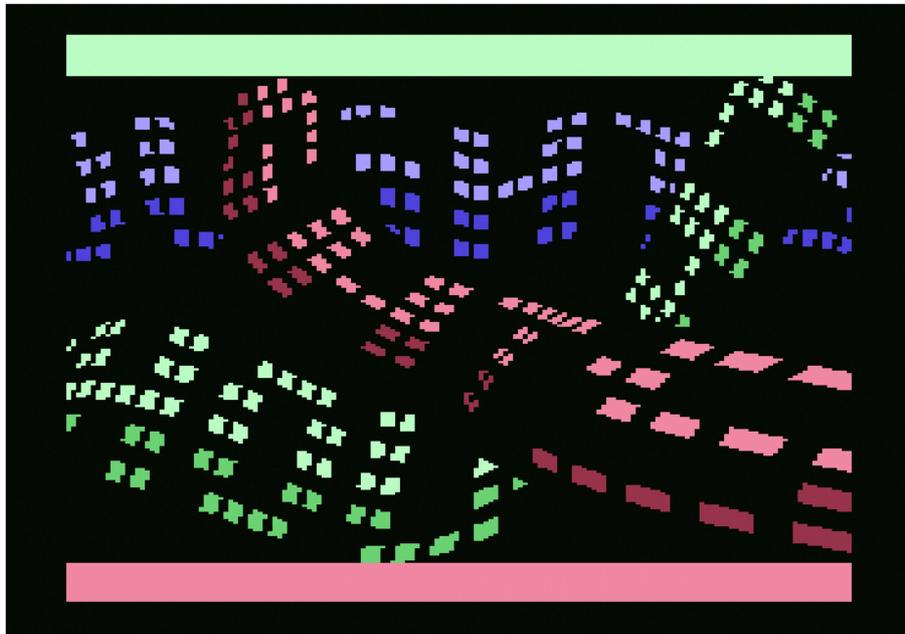
Figure 10. *Scrollwars* by Fairlight, Offence, and Prosonix, C-64 demo, 2013.

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