

The Digital Poster

This report will discuss the new digital poster medium, as it tries to describe a set of important aspects when it comes to designing content for the screen. It will consider the space in which the screen operate, as well as the composition of graphics for the screen. This will be done reviewing the history of the traditional poster and the graphic design behind it, in order to produce a series of animated posters. Furthermore, the software and the process of creating motion is presented. At last, future roles for the digital poster is mentioned.

This project hopes to give a brief look into some of the challenges facing the graphic designer, designing for the new digital poster, and reflect on how software shape the way we create and think graphic design solutions.



The Digital Poster

In recent years, the limits of the traditional poster are being pushed as it takes its long-awaited steps into the digital age. The cost of big and custom digital screens have become so affordable, that the field of digital signage¹ is covering more and more territories – now including billboards on the highway and posters in metros and at bus stops.

With these new screens comes a range of benefits: reduced paper waste, the ability to easily change the content on the screen, and the opportunity to show something dynamic. Big companies like Pepsi have run interactive poster campaigns, scaring people at bus stops, while Scharffen Berger have invited you to take a selfie to become a part of their campaign.

These examples focus on the technical possibilities of the screen. There seems in many cases, however, to be a lack of well-designed content such as text, image, video, animation. Videos on screens may simply be too long for people to see or the screen may contain too many details for the moving passer-by to easily comprehend.

Imagining a future where all signage and advertisement is digital, what will be the legacy of the traditional poster?

1 Digital signage [collective understanding of signs] is a way to, through digital displays [such as LCD, LED and projection], spread information such as advertisements (a1).

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“John Anderton you could use a cold Guinness right about now!” Those are the words to Tom Cruise, attacked by speaking adverts, as he strolls through a mall [1a]. The scene is from the science fiction film *Minority Report* from 2002 and takes place in 2054’s Washington, where digital holograms with eye recognition, scans individuals and target specific advertisements.

In 2009 the Paris Metro (RATP) together with Metrobus installed 400 digital poster screens in the Paris metro system, with cameras that could detect faces, count people, and the time bystanders spent in front of the screen. Designed to determine the type of people viewing the adverts, at given times, to better choose the advertising displayed. Furthermore, the screens had Bluetooth installed, a feature which enabled users interested in an advertising to download information directly from the screens to their smartphone (a2). Also in 2009, Castrol installed roadside cameras that recorded number plates of driving cars, flashing their registration number onto screens, and revealed the style of oil recommended for use in the car’s engine (a3).

Of course, none of these campaigns continued due to legal questions, but the screens stayed and have continued to grow in numbers. A progression that have started a race to capture digital real estate in airports, public spaces and other places where displays are placed (a4). So even though advertising agencies cannot legally target people, alike they did John Anderton, they have endorsed the eye-catching effect of dynamic content the digital display of posters and billboards have.

Maybe the film *Children of Men* from 2006 offers a more realistic near-future-vision of displayed advertising. In the film Clive Owen walks around London in the year 2027. All over the city, building facades, busses, billboards, and newsstands are plastered with digital screens [1b]. The technical possibilities of this future scenario is already possible, and with the ongoing development in display technologies, it cannot be long before screens of all sizes will cover the urban landscapes.



1a



1b

1a Digital holograms in 2054 Washington D.C. from the film *Minority Report* (2002). Directed by Steven Spielberg.

1b Digital bus advertisement in 2027 London from the film *Children of Men* (2006). Directed by Alfonso Cuarón.

2a



2b



2a The Motogram showing the breaking news of D-Day, Times Square in New York City. June 6th 1944. Photo by Howard R. Hollem, MacLaugharie, and Edward Meyer.

2b Theater posters in the metro, Paris. July 24th 2010. Photo by Nicolas Guelle.

Public Displays

One of the first electronic public displays was installed on the facades of One Times Square building in New York City in 1928 [2a]. Named Motogram, it consisted of a line of light bulbs that could be switched on an off, creating a dynamically pixel-like effect (a5). Since then various of electronic public display technologies for signage have been used, recently introducing display screens made of the liquid crystal technology LCD or the light-emitting diodes LED.

In his article *The Poetics of Augmented Space* from 2002, Lev Manovich describe the potentials of these new digital screens:

“Physical space has long been augmented by images, graphics, and type; but replacing all of these with electronic displays makes it possible to present dynamic images, to mix images, graphics, and type, and to change the content at any time.”

(a6, p. 4)

Besides the dynamic content, companies face a number of advantages switching from traditional print advertising to digital advertising. Conventional signage needs to be printed, transported, and installed, whereas digital content can be easily switched and modified (a7). Furthermore, digital displays can contain interactive content that reacts to viewers. This gives possibility for interaction between the advertising and the costumer via, for instance, a smartphone. Lastly, digital adverts equip companies with an opportunity to measure the effect of adverts (a1).

The manner in which Manovich consider the “physical space filled with electronic and visual information” (a6, p. 3), introduce a new shift in digital advertising, moving from internet based advertising into the physical space. This change brings along some challenges. The experience of the viewer’s interaction differs between the internet’s private space and the physical public space. Moreover, the movement, of the often walking viewer and the compressed time in which the viewer has to perceive and interpret the digital display, arise questions.

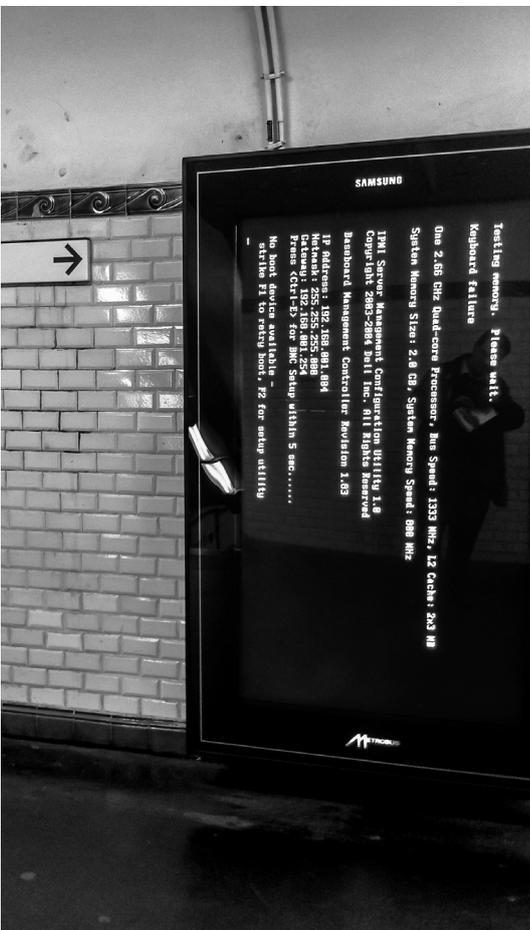
“The consumers getting exposed to the advertisements are often moving, this means that there is very little time to deliver the message.”

(a1, p. 16)

2c



2d



2c Digital poster "Bonne nuit" by Eleonora Alcan Alizee Ayrault and Nicolas Liberman at metro station Châtelet, Paris. 2012.

2d Samsung screen with error message at metro station Pasteur, Paris. June 16th 2012. Photo by Philippe Payart.

On top of that, the steady increase in adverts and visual messages viewers get exposed to every day “may lead to visual clutter and information overload for audiences” (a8, p. 1).

In his book on concepts and tools of marketing, Philip Kotler mentions how viewers manage the high dose of advertising: “most of these stimuli are screened out – a process called selective attention” (Kotler, 2002, p. 94).

Eventually, the fact that the digital screen is such a new part of the outdoor advertisement makes: “it unclear whether passengers actually do pay attention to these screens and how much information presented they ultimately remember” (a9, p. 142).

With these points, it is perhaps important to look at the advantage the traditional posters have, being static and quick to read. So many digital posters, it appear, neglect this observation, in the aspiration of attracting consumers attention with dynamic images. In addition, the graphic composition of the traditional poster can be of value. Elements of colors, shapes, and text should be reviewed when creating moving images for the screen. Nate Nead, digital signage guru and president of MediaSignage, Inc. stresses the importance:

“The content is not only an on-going cost, but also contributes the most to whether or not your display network is going to have ANY impact on viewers” (a10, p. 1).

An application area for digital posters is in public transport. In places of public transport, screens are often used to communicate with passengers, giving information, news, and advertisement. Numerous of people travels through the city everyday, leaving digital posters positioned on the way, exposed to a broad audience (a9).

The digital posters located in the Paris metro have displays consisting of Samsung LCD 70” screens. The dimensions of the screens are 90 cm x 160 cm, which means that the frame follows the standard aspect ratio of HD video (16:9), the only difference being, that the orientation is vertically flipped [2d] (a11). The screens, designed to loop several advertisements, will be the medium for this report’s attempt to design moving graphics, and the metro system the physical space.

The metro system presents a space, that for a long time has employed the printed poster [2b]. It is also a place that operate under the earlier mentioned challenges of time, and with content, that can be seen as a confrontation of the narrative cinematic format and the static poster format. A situation former CEO of Metrobus’ innovation department Norbert Maire describes:

**“There is no reason now
to broadcast music videos.
It is not the idea to make
commercial spots...
...Travelers are not here for this
and have no time.
We have the ambition to rather
have advertising posters that
evolve, can move,
can be animated.”**

(a11, p. 1)

A good example of posters that have been animated, does not come from the standard daily advertisings, but instead from a collaboration between the Paris Metro (RATP) and Design School Penninghen (ESAG). In the program “Les ultra-courts du Métro” students came with proposals for the Samsung screens. The videos, all between 5 and 10 seconds, was shown in the metro during night hours and carried messages “Happy New Year” and “Goodnight” [2c] (a12).



3a



3b

3a Posters on column promoting theater shows for the Morris Company. 39 Avenue de l'Observatoire, Paris. Jan. 24th 1876. Photo by Charles Marville.

3b Posters on the fence of St. Nicolas des Champs on Rue Reaumur, Paris. May 8th 1917. Photo by Charles Lansiaux.

The Poster

“New media is doing exactly what their predecessors have done: presenting themselves as refashioned and improved versions of other media. Digital visual media can best be understood through the ways in which they honor, rival, and revise linear-perspective painting, photography, film, television, and print...
...what is new about new media comes from the particular ways in which they refashion older media.”

(Bolter, 2000, p. 15)

Posters can be differentiated in many ways, some talk about the public poster opposed to the collected art poster. Others separate between the public statement poster and the advertisement poster.

Historically, the poster began as a mean to declare official decrees or orders, commonly from the state to the people. This largely political use of the poster continued and grew in force when Gutenberg made it possible for the poster to be reproduced. In 1534, the invention helped the Protestants nail a poster on the door of King Francis I's bedchamber. This enraged the king and he felt obligated to regulate the putting up of posters. In 1653 it became forbidden with the penalty of death to print or display poster without official permission (2004, Müller-Brockmann). The posters mainly consisted of text, and illustrations were rarely used. In the second half of the 19th century the poster appeared in a new context. The combination of the technical invention of lithography (which made fast mass production and additional coloring possible) and a whole new range of consumer goods, introduced the commercial poster. Each new product or theater performance had to be distinguished from the other and for this, the poster was used, as it spread through the urbanized European cities.

In many ways these first posters have many qualities and features in common with the posters of today. The poster, at the turn of the last century, was not alone anymore and now appeared in the setting of other posters [3a–b]. As the poster now tried to stand out from the rest of the other posters, it attempted to seduce the viewer, rather than simply inform. The advertising poster moreover contributed, in shaping a new modern concept of public space – a space writer Susan Sontag cites as: “a theater of persuasion” (Sontag, 1999, p. 198). Nowadays it seems little has changed [2b], and a lot of posters are still working under the same principles. Even the definition of a poster, written by Harold F. Hutchinson at the beginning of his book “The Poster, An Illustrated History” from 1860, describes the present poster quite well:

“A poster is essentially a large announcement, usually with a pictorial element, usually printed on paper and usually displayed on a wall or billboard to the general public. Its purpose is to draw attention to whatever an advertiser is trying to promote and to impress some message on the passer-by. The visual or pictorial element provides the initial attraction, and it must be striking enough to catch the eye of the passer-by and to overcome the counter-attractions of the other posters, and it usually needs a supplementary verbal message which follows up and amplifies the pictorial theme. The large size of most posters enables this verbal message to be read clearly at a distance.”

(Sontag, 1999, p. 197)

Composition

“The reader first notices the picture, and it must be strong enough to draw attention. Then the headline must propel the person to read the copy.”
(Kotler, 2002, p. 584)

“The values of a poster are first those of “appeal,” and only second of information”
(Sontag, 1999, p. 198)

Perhaps Josef Müller-Brockmann’s future scenario for the poster is somewhat differing from that of this report: “playable and kinetic water and air displays which can be reproduced, corresponding to the need for optical-musical stimulus” (2004, Müller-Brockmann, p. 239). His books on printed posters and graphic design layout, however, are still to this day, bibles for a large number of graphic designers, students, and teachers [4a]. In one of them, *History of the Poster*, originally published in 1971, Müller-Brockmann describes the story of posters through a graphical approach. The following section will have a brief look, at the components and the composition of the traditional poster, alluding to *History of the Poster*.

At the turn of the 19th century the makers of the leading posters were artists, and the posters themselves rapidly turned into art pieces. The graphic composition consisted of a colorful full page illustration, often portraying single figures, with typeface painted by the artist [3b]. Later, as graphic designers gained more authority of the poster making, the graphics seemed to switch and focus on the representation of the product. The posters were composed of simple illustrations, few colors, and typeset with big letters spelling the brand-name [4b]. Other posters dismissed the product, leaving the attention entirely to the arrangement of graphical elements. The designer often applied mathematical structures, like grids, to determine the arrangement [4e–f]. Furthermore, poster designers have used experimentation as a tool for creation. With reorganization of elements, abstraction of forms, and photo and computer manipulation, posters can be created, displaying impressions of motion [4d]. Additional examples will be shown, when looking at the space and frame of the digital poster.

4a Poster for Jacques Tati's 1967 film Playtime by Jamie Rickett 2014. The poster was commissioned by Grafik and shown at FACT's Type Motion show 2015. Supposedly an "contemporary example of how type can engage with the moving image" (a13).

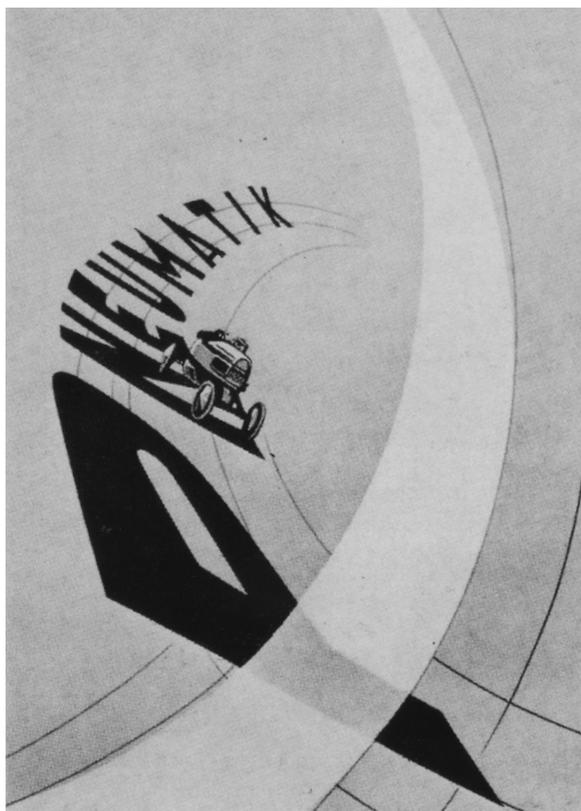


4a-b

4b Poster for railway transport by Hans Erni 1942.



4c Sketch for a poster by Laszlo Moholy-Nagy 1926.



4c-d

4d Poster for ink by El Lissitzky 1924.



Space and Frame

“We’re moving, not part of the space we’re looking out on. We are also in a kind of transitory space, literally in-between two places, and also half in our internal world, usually lost in our thoughts, while still in physical reality.”

(Wells, 2008, p. 174)

One of the reasons the contemporary digital posters in the Paris metro are inefficient, appear to be the lack of understanding the space and choosing the appropriate frame. Many posters apply animation and video clips, that are too long for the viewer to notice and make sense of. A brief look into posters on various stations in Paris during November 2014, indicated, that more than half of the posters had a length above 10 seconds. Besides the timespan of animations, several posters merely displayed the informative text and brand-name for $\frac{1}{3}$ of the total length, thus making it harder for the average passer-by to detect the motive of the poster.

But even when the duration of the moving images are shortened, and the text more dominant, the context of the screen and the viewer’s experience should be considered. In his book *Motion Design*, Matt Woolman points out: “The experience of the audience in the cinema is not the same as that of someone sitting at a computer in an office or at home. Film relies on the phenomenon known as suspension of disbelief, the psychological element that gives a film its reality” (Woolman, 2004, p. 24). The same way, that designing animation for cinema and the internet differs, creating moving images for the poster screen is unlike that of both cinema and websites.

Likewise, the rotation of the frame, from the horizontal to the vertically orientated frame, changes viewers experiences. Woolman adds: “Film, which allows a wider aspect ratio, imitates the way we see the world most closely” (Woolman, 2004, p. 18).

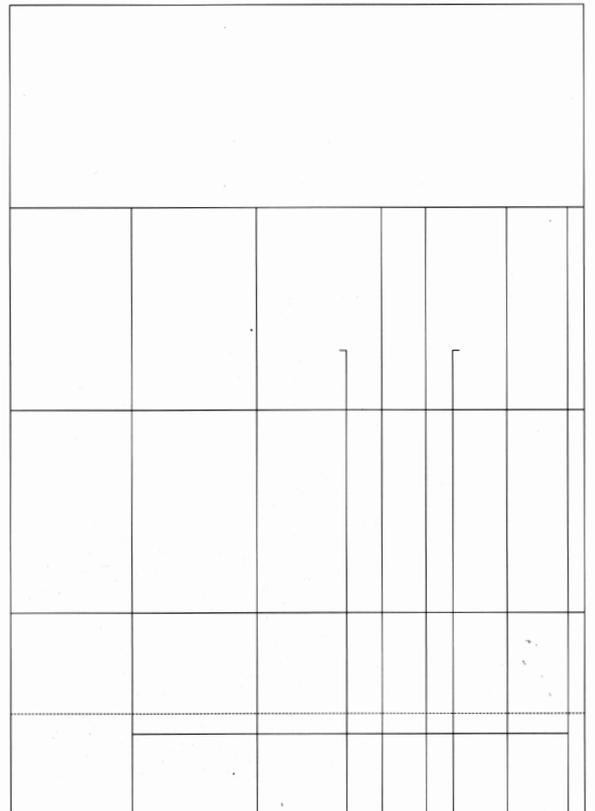
Examples of this is found in the digital posters of the metro, where many designs seems to be adapted to the poster from other platforms, mainly the internet or the smartphone.

The following section will move from the physical space to the space of the frame, to view the basic components of the graphics on the screen.

A closer look, at Hans Erni’s poster for railway transport from 1942, illustrates some basic structures of graphics [4b]. Lines are shaped and arranged in order to depict the routes of railroad transportation. An illustration of a cargo wagon turns the lines into railroad tracks, and the arrows into tempo and destinations. The text ties the verbal message of fast delivery with the image. Laszlo Moholy-Nagy’s poster sketch from 1926 possibly shows, that the image essentially consist of a series of points, lines, and planes, placed in a frame [4c]. Some lines are lone, others turns into planes, forming the road



4e-f



4e Concert poster "Musica Viva" by Josef Müller-Brockmann 1969.

4f Grid for the poster "Musica Viva" build up on a grid 4½ fields wide and 4 fields deep.

for the accelerating race car. Points are placed, connected so that they are outlining letters of text. These different elements represent various forms, positioned in space.

Woolman discusses the composition of space, using the terms Room and Window. If the elements are placed in the room, the borders of the frame works as closed walls and can not be crossed.

This composition will be perceived as fixed.

If the elements are placed in the window, the borders of the frame will capture parts of the elements. This composition will be conceived as looking out a window, sensing a realm beyond the borders (Woolman, 2004). Jamie Rickett's film poster from 2014, places the text forms on the edge of the border in the room, creating tension in the frame [4a]. The posters of Erni and Moholy-Nagy on the other hand, employ the window, sustaining the energetic lines beyond the borders.

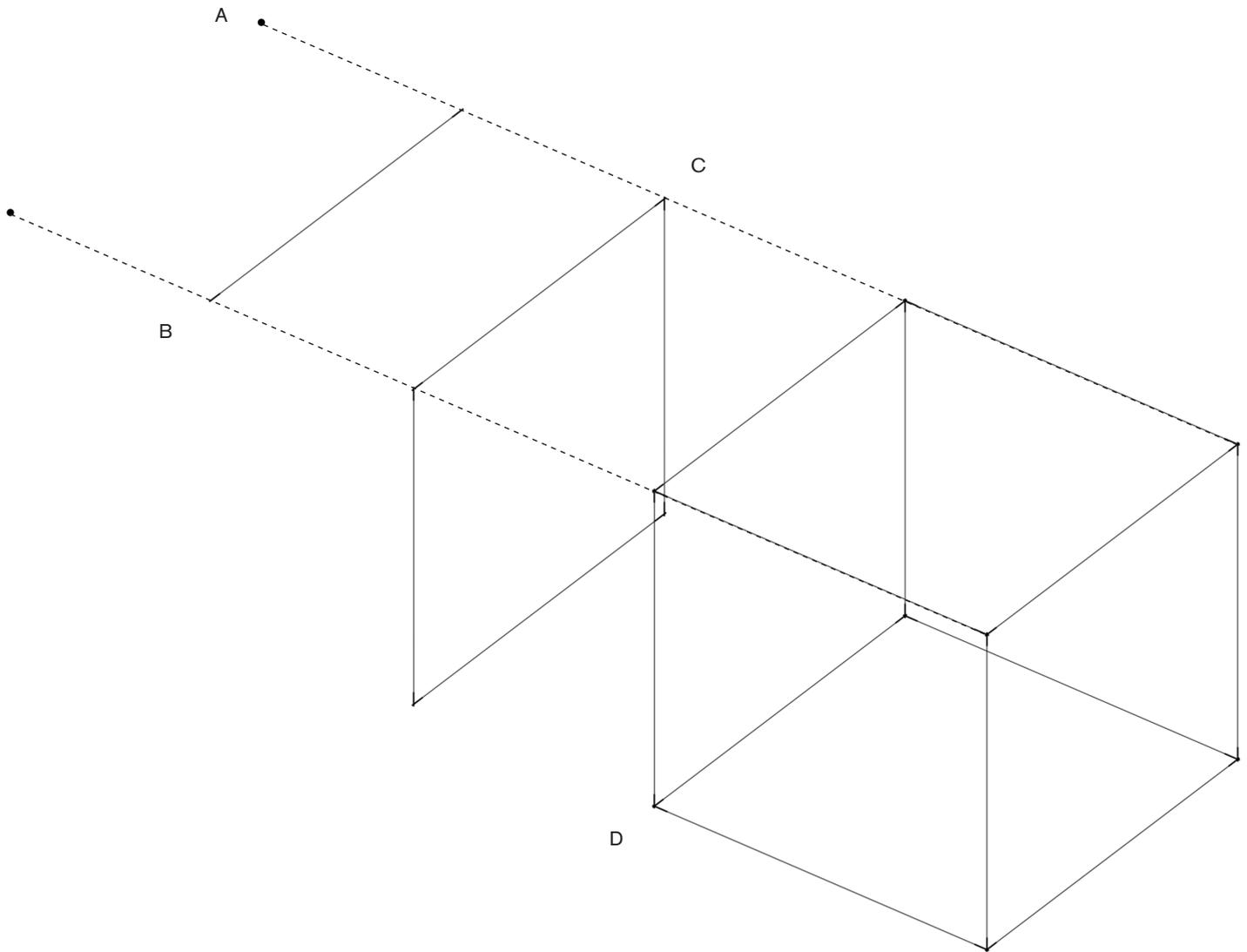
When composing in the frame, be it a room or a window, different grounds can be compiled, enhancing the illusion of depth. In software programs like Adobe Photoshop, layers are usually used to navigate across grounds. The relationship between background and foreground can be altered with contrast in shape, size, surface, color, hue, and tone. These contrasts can be intensified adding blur or sharpen, to control the depth of field.

A background containing an image, slightly blurred, with solid text in the foreground, is perceived, as if a distance between the two existed and extend the two dimensional space of the poster.

El Lissitzky's poster for ink from 1924, illustrate this approach. A photo of an ink glass, pen, and brand-name is manipulated, leaving a blurring silhouette of the motif. The sharp stencil text is placed on top in strong contrast [4d].

Another way to create dimension between the foreground and background is to apply a mask to the background layer. Masking is a common tool in Adobe software, and can be used to highlight certain forms, creating balance in the composition. The position of the elements in relation to the viewer can also be taken into account. Adjusting the scale of elements can create a dynamic relation between viewer and the poster.

The methods mentioned previous, are just a few of the many ways to build the frame of the digital poster, and the foundation before incorporating the dimension of time to visual objects.



A POINT: A point specifies a position. It is the starting point of form construction and the dot placed first when drawn. Points can be found at the end of the line, at corners, and also where lines intersect.

B LINE: Drawn from point to point, this is the first sign of a movement in form. The shortest distance between two points is a straight line. A line has at least two points. A line establishes the edge of a plane, and can also be found where two planes intersect or join. The line can be used to express contrast, when opposite objects are placed on each side of it. The straight line can also emphasize the constructed and artificial. The line has one edge, two points, and one dimension.

C PLANE: If a line is moved and its path connected, a plane is created. A plane is also made when the line is connected to its starting point. The plane with four edges has four points, and two dimensions.

D VOLUME: If a plane is moved and its path connected, a volume is created. The volume of a cube has twelve edges, eight points, six planes, and three dimensions.

FORM: Can be described as any and all visual elements that perform in the space.

(Leborg, 2006, pp. 10–15), (Woolman, 2004, p. 16), and (a14).

Time and Motion

“Equipping posters with the dimension of time greatly enhances the potential complexity of an otherwise static medium.”

(Woolman, 2004, p. 86)

It seems that animation has always embraced new technologies and software, from the abstract animation films of Norman McLaren to the computer animated CGI blockbusters. Today animation and moving images are apparent on every smartphone, LCD screen, feature film, and website, and it has become the way we perceive much technology around us.

The major difference between the traditional poster and the new digital poster is the component of time. This means, that the graphic designer must employ motion to the design, and transform graphics into events occurring over a period of time.

The digital poster contains two aspects of time: motion and sequence. Motion is the movement of elements around in the frame: the direction, orientation, rotation, scale, and so on. Sequence is the timespan and structure of motion (Woolman, 2004). In Adobe software a timeline panel is used for navigating in sequence, and a composition panel to arrange motion. Together they are crucial parts of duration, rhythm, and development in the digital poster. The frame is referred to as the stage and is where forms are viewed.

The next section will look at how the simplest form of animation can be used to add motion to the digital poster. This will be demonstrated in Adobe Photoshop, a program not specifically designed for moving images, but mainly the editing of photos. The reason for choosing the program is to show how graphic designers can add motion to designs, using a program they already master.

The software available for creating moving images is broad, and the cross-application workflows of programs like Adobe, makes it possible for a graphic designer to place illustration, photo, and text in a time-based environment. This allows the graphic designer a cross-disciplinary workflow, including motion design. Open-source programs like Processing and Quartz Composer, and Arduino micro-controllers, have also contributed, as tools for the cross-disciplinary graphic designer.

In his book *Software Takes Command*, Manovich analyze software, in order to explain the new hybrids that occur when typography, animation, painting, and cinematography meet within the computer. According to Manovich, understanding our use of the software is the first step in moving forward in different design areas (Manovich, 2013).

A basic straightforward animation technique, is working with a motion path – creating a simple object that moves through space. In the simplest animation the object moves in a linear motion. Motion is referring to the time it takes for the object to move along the path, and linear to the speed

of the object. A linear motion moves at a constant speed. The time in which it operates is measured in a specific rate in frames. The standard animation frame rate follows the traditional film industry filming and projection rate of 24 frames per second. This means that it takes 1440 drawings to create a minute of animation. It is also possible to work with any number of frames per second, most commonly a half frame rate of 24 fps is used, creating a slower animation of 12 fps.

In Photoshop CS6 this technique can easily be utilized using the timeline panel, where there is two different ways of organizing frames. In this case, where an object is moving from one place to another, and do not switch between frames, the Video Timeline is optimal. In the timeline frames are arranged on a line, which makes it easy to draw a frame, move forward, draw a new frame, and so on. The process can be quickened if hotkeys are assigned to the drawing tablet or keyboard. That all the frames are collected on one layer, makes it fast to navigate between different animation layers. The enablement of Onion Skin, a feature that makes the current frame together with the previous or next frame visible, makes it possible to control the speed and motion of our object. The major advantages of working with this workflow are, the freely and spontaneous results of the animation, and the familiar interface and layer options of Photoshop.

Another way to animate the motion path, is to use key frames. If the beginning and end of the motion path is known, the central frames in the animation can be drawn, thereafter leaving the remaining frames to be drawn to connect with the central frames. The central frames are named key frames, and the drawings joining them, the in-betweens.

In Photoshop CS6 the timeline Frame Animation is favorable for key frame animation. The control of working with each frame individually in the layer panel, enables the tools of Photoshop to be applied as normally. Key frames can easily be drawn, in-between added, and then arranged in the timeline in the wished order. This makes it possible to jump between or repeat specific frames, a task difficult in the Video Timeline. As frames are designated to individual layers, longer animation equals more layers, which can be confusing to guide through. Onion skin is not available, but a similar effect can achieved by changing the opacity of layers.

SUMMARIZE This report has briefly explored the new digital poster medium. It has come across significant points and advantages relating to digital signage – the compressed time in which viewers have to register and understand the digital poster, and how the digital poster relates to the urban transitory space of the Paris metro. It has looked at the history and composition of the traditional poster, in hope of finding words of wisdom to refashion the new digital poster. It has done a series of visual trails, in an attempt to see what lies in-between the narrative cinematic format and the traditional static poster format.



5a



5b

5a Pedestrians from New York City and Los Angeles where able to see, hear, and speak with each other as if encountering each other on the same sidewalk, through big public displays. From the three day art sculpture "Hole in Space" by Kit Galloway and Sherrie Rabinowitz 1980 (a16).

5b Digital billboard in 2019 Los Angeles from the film Blade Runner (1982). Directed by Ridley Scott.

Using the Photoshop animation procedure, alongside Adobe After Effects, a program capable of generating the in-between keyframes, a series of poster tests were created. A selected collection of 15 animated posters is gathered at <http://www.kantsoe.com/thedigitalposter.html>.

Each poster is an answer to assumptions of the report, serving to illustrate some of the important points. They are also results of a technical investigation into the Adobe software. When viewing the posters, the content and motive of products and brands should be omitted. Even when text, image, and animation relates to a message it is an inevitably side effect. It is the hope, that the collection will continue to grow, evolving new approaches to both design and software, as there is a tendency for programs like After Effects to shape the aesthetics of graphic design. The outcome of this test blends with the rest of the moving images of today – a result not merely explained by trends or graphic inspirations. A remark that can raise the question of how creative Adobe software really is?

Further investigation into the new digital poster must consist of tests of the screen in the physical space. The screen may merge into other areas of digital signage and wayfinding, with the emergence of multipurpose public displays in the urban landscapes. Public displays may evolve, from being passive viewing experiences, to context-aware screens that can permit viewers to access a range of information and communication [5a]. Moving beyond the medium itself, a rethinking of the urban communication and interaction space is needed. “This distinction from conventional public displays requires new approaches for designing interactive and context-aware content, and in broader terms, spans a new design space into the research area of urban computing.” (a15, p. 15). The future of digital eye-catching advertisements, reclaiming the physical space, along with street furniture digitalizing is foreseen by Manovich: “Every object may become a screen connected to the Net with the whole of built space eventually becoming a set of display surfaces” (a6, p. 4).

The only thing missing then are those flying cars [5b].

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1b Copyright © 2006
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Acknowledgements

The following persons should be mentioned, without them I could not have understood nor made the animated posters. Alex Grigg for the animation techniques and actions in Photoshop. Sander van Dijk for the Ouroboros After Effects preset. Evan Abrams for the Chromatic Aberration preset.

Lou Hisbergue for tea and sympathy.

A special thanks to my supervisor of the project: Rasmus Spanggaard Troelsen.

Software used for the animated posters:

Adobe Photoshop CS6	Adobe After Effects CS6
Adobe Premiere Pro CS6	Adobe Illustrator CS6
SketchUp 2015	

