Motion design in 1990-2010 and its entertainment function: social and technological aspects

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Abstract. The increased importance of applied animation associated with the active introduction of products of motion design into national design practice requires due attention and research. In order to understand and use correctly the techniques and principles of modern design activities related to dynamic images, it is necessary to study its origins and conduct a historical analysis of expressive methods and means. The paper studies one of the stages in the development of motion design, covering the 1990-2010s and describes the types and techniques of applied animation used in advertising.

1. Introduction
The development of the basic principles of motion design, created at the turn of the century, in particular, the reliance on new technologies, led to the fact that one of the most prominent tools of motion graphics at the turn of the 1990s was the widespread use of the computer graphics capabilities. It manifested in the creation of such forms of motion graphics as commercials, captions, educational, political and social videos, as well as elements created by the motion design capabilities for Web industry.

The researcher Ya. B. Ioskevich studying the art culture of the Internet space writes that motion design “seeks to use the specifics and new aesthetic possibilities offered by the Web” [1]. N. G. Krivulya in the research “Animated poster: origins, specificity and originality” writes that a characteristic feature of the works of applied animation, created in the period 1980s - 2000s was the “uneven use of digital technologies in various subspecies of this genre”. Their implementation turned out to be the most productive in the field of advertising posters, while realism tendencies increased in the political poster and digital technologies were practically not involved. This trend continued until the early 2000s [2].

2. Evolution of motion design (1990-2010)
The vector of evolution development of motion graphics since the early 1990s is directed by market requirements and commercial feasibility, which determine the conditionality of certain expressive means.
Starting from this period, the features of formation are more and more determined by the tendency to use the most simple and laconic solutions from the point of view of graphics: local colors, stylization and simplification of forms, minimal use of light and shade, etc. Since the late 1990s during the creation of applied product, motion graphics increasingly refers to the methods and means used at
the stage of its formation. With the advent of digital technologies in the art of motion graphics, the trend of attraction, artistic expressiveness is increasing, simulacra images are actively used.

The strategy in the creation of political animation is changing. Since the beginning of the 2000s in political animation, the heroic-patriotic style begins to prevail. A candidate is idealized with hypertrophy, and the general intonation of the video focuses on the image of the “defender” and “friend” of voters. As an example of such videos, we can cite the video of “Boris Yeltsin's electoral company” and “SLON” political party.

Another strategy used in pre-election advertising was in the comparison of a candidate and an opponent. A candidate was opposed to his opponent, giving negative traits to the opponent's image, which, together with the ironic context, changed the general tone of work from “official to caricature” (“She has no choice, but you have!”). The graphics of political commercial videos “were characterized by the techniques of popular print, comic, carnival and collage components” [3].

Late 1990s - early 2000s are characterized by the widespread introduction of three-dimensional graphics capabilities in motion graphics tools, which leaves its unconditional imprint on the stylistic component.

At the same time, the beginning of the 2000s is associated with a new stage in the development of motion graphics. In this period, there was a significant change in aesthetics and a renewal of the strategies used by animators when communicating with audience. Many works appear that use the author's underground style, which makes it possible to bring confidential personal intonations into communication.

At the present stage of development of digital technologies, the possibilities of computer graphics are considered to be unlimited and “the imagery of animation art can give rise not only to surprise and entertainment, but also to make a person think, understand and learn complex social, philosophical or aesthetic aspects of society by means of art” [4]. Animated graphics synthesize the principles and methods of many types of art, visual communication and technology.

Nowadays, we should talk about an already established type of project activity - motion design, which combines graphics, sound, photo and video information, animation, and combines the capabilities of two-dimensional and three-dimensional graphics.

In the modern world, animation has a special place in the creation of computer games, advertising (including banner advertisement), music videos and TV airtime design. A multimedia product increases the efficiency of information perception that is why it is one of the most promising and popular areas. N.S. Kuznetsova, studying new developments in the field of human-computer interaction, in which there is a simultaneous and constantly improving influence on the organs of human perception, draws attention to the implementation yet fundamentally different “game” principles of information presentation [5].

The scope of motion graphics, which combines graphic design, photography, typography, sound effects, animation and storytelling, is constantly expanding. In products created by motion graphics, 2D or 3D objects come to life using 2D and 3D graphics - new images of game and advertising characters appear. With the help of the visual channel of perception, information is structured and systematized. Applied animation graphics have large figurative and expressive means, which, unlike static graphic objects, acquire new qualities in the process of dynamization of movement. The main segments of the application of motion graphics are the film industry, television, marketing, advertising (social, political, commercial), education, entertainment, presentations, etc.

The process of “animation” captures all the new, previously untouched spaces of adjacent areas. One of these spaces is the Internet.

According to T. Yu. Kitaevskaya a website is a system of visual elements aimed at the provision of a holistic perception of both the entire object (website) and its individual elements (pages, objects) [6].

A positive emotional reaction of a user is incorporated into the design of the site at the stage of its design. A designer should not only provide such a client's reaction to the Internet site, but also contribute to the emergence of a connection with the “feelings of individual consumer about a design product” - the advertised object [7].
Motion design is used in the creation of online advertising, interface elements and navigation. It allows simplifying user interaction between the objects of a web page and user actions when it appears on the download page. At the junction of two or more subject areas, new meanings and spheres of interaction appear.

If the product of motion graphics does not have a detailed plot and initially simply illustrates certain ideas, then in conjunction with the web interface it creates and broadcasts a previously nonexistent virtual model of an object or animation phenomenon. As an example, combining game and informational functions of two subject areas of design (motion and web), we can cite the replacement of static screensavers dedicated to various events and anniversaries on the main page of Google by Google Doodles, the development of which is directly related to the use of motion graphics capabilities. These capabilities simplify search functionality and transform reality into motion graphics for videos, splash screens, commercials etc.

The power of 2D digital graphics is usually used for web animation. 2-D shape animation transforms both the simplest geometric shapes, transforming them into each other as well as rather complex shapes.

![Figure 1. Shape 2-D animation: a – transformation of the simplest objects; b – character shape transformation.](image)

In products created by motion graphics in the 2000s the emphasis was on art and technological innovation and eclecticism. Artists tried to create a capacious memorable image, in some cases deliberately using a minimum of means, while in others, on the contrary, they filled the screen space with a visual kaleidoscope that combined the capabilities of video, photo, hand-drawn and three-dimensional graphics. The common points for all animated applied products of this period were the unconditional predominance of elements created by means of computer graphics, the absence of a pronounced narrative in the video plots (emphasis on action). Information was presented through dynamic and expressive scene changes, where the only, often, connecting semantic element was a character (mascot) or the advertised object. The visual range of the video was often supplemented by the introduction of dynamic font elements, which significantly enriched the visual range.

N. G. Krivulya, formulating the distinctive features of modern works of motion graphics, draws attention to the predominance of “semantic reduction and clip nature in the presentation of verbal and visual information” [8]. It is also necessary to note the emphasis on strengthening the entertainment and game components of an animated commercial during the studied period. Over time the presentation of the material increasingly begins to express tendencies towards the strengthening of active and rather aggressive intonations. In addition, the convergence of the subject areas of design leads to the emergence of new products created at the junction of animation and other types of design.

Motion graphics, developing over time, has changed its attitude towards meaningful and depictive presentation of information. Roland Barthes writes about the need to include advertising “among the main mental food products, which are for us literature, theatre, cinema, sports, press, fashion” [9]. Thus, advertising according to Barthes is one of the most effective means of the formation of the spiritual experience of a person. In this regard, one of the examples is the transformation of meanings
in social (anti-alcohol) advertising: in the films of the 1920s, the problem of alcoholism was seen as a consequence of illiteracy and remnants of the dark past, in the videos of the 1950s - 1960s the weakness of the drinking person is exposed and his rehabilitation is assigned to the family and work collective, and in the 1980s the accusatory slogan gives way to a narrative form, later acquiring a harsh, gloomy-ironic sound (“Reanimation”, “Blue devils” projects).

One of the most effective leverages on a viewer (a consumer of advertising) is a dynamic advertising character (mascot). The task of such a character consists in the volumetric and “consistent implementation of the concept, style, specific design solutions for the visualization of the trademark, corporate logo of a company and brand” [10]. In general, animated according to M. Baitler, should contribute to the fact that “the attention of any person who falls into the area of perception of this notification” was filled with the subject of such notification [11]. For motion graphics, this task is simplified by the fact that viewers “... since childhood have retained a completely supportive attitude towards cartoon characters” and are subconsciously friendly towards what is happening [12].

A well-known example of a commercial that used a child's friend in communication with a user is the products of Prostokvashino brand. The commercials for Prostokvashino use the two-dimensional stylistics originally used for cartoons. The possibilities of 2D graphics are also demonstrated in commercials for Alpen Gold, Pit Breweries, Sorti dishwashing products.

The example of the use of 3D graphics is the commercials of the companies M&M's, Nesquik, Invite +, Picnic, Heinz, Michelin, etc. 3D animation of the early 2000s focuses on the creation of an animation object or scene in which animation takes place in specialized computer 3D programs, when “it is necessary to create geometric models of all its constituent objects, configure light sources and cameras, create and assign materials to objects for which it is necessary to select or draw textures” [13]. The example of this is the anthropomorphic advertising characters used by M&M's. These characters are multi-colored candies that enter into active communication with a viewer from the screen.

It is possible to say that the specifics of motion graphics at the turn of the 2000s is the active use of 3D animation for the creation of commercial advertising products, where technologies become an integral part of the information flowing from the screen.

The key features of computer animation in 3D space are sets of textures, objects, light sources, bones, etc. These components create complex solutions for visualization of special effects, modeling and rendering using the capabilities of functional programs (3Ds Max, Maya, Cinema4D, etc.), which have a wide base of tools and additional plugging. 3D animation, digitally creating an object, provides it with a “skeleton” that allows moving the model. The capabilities of a computer allow interpolating between frames, thereby creating motion, where visual transformations are controlled by the matrices of rotation, shift, scaling and the morph effect, which smoothly transforms the “flow” of one object into another.
Procedural animation is used only in 3D animation to create effects and movements that describe how parameters change over time. It is calculated by a computer using Java-Script and Action-Script with the help of which the movements of animated objects are programmed, creating simulated particle systems (water, smoke, fire), hair and fur dynamics, character animation and their movements.

Commercials use all the capabilities of computer technology (2D, 3D animation and their combination), but 3D graphics are preferred. In social and instructional videos, the possibilities of 2D animation are predominantly used, as a cheaper option in terms of cost.

One of the most popular social advertising projects that used the possibilities of both 2D AND 3D graphics is the project “Reanimation”, to the creation of which well-known Internet artists and comics artists were involved (Khikhus, A. Pronkin, A. Velitov, A. Shelyakina, L. Zilonova, P. Muntyan, M. Polyakov, E. Sidoruk, K. Komardin and others). The musical accompaniment of the project was provided by the Russian rock movement (musicians of the groups “Splin”, “Auction”, “Crematorium”, “Sky is here”, “Purgen”, “Kasta”, etc.). The figurative solution of the project is an eclectic, maximally sophisticated aesthetics of graffiti, comics, anime, abundantly mixed with black humor, where “the informal, controversial language, used by the creators and developers of this project, baffles not only critics, but also the representatives of blogosphere, raising doubts about the adequacy of the means used” [14].

The project uses cut-out animation, 2D and 3D digital animation, frame-by-frame and stop-motion animation.
Addressing the issues of technology for the creation of an animated work, it is possible to state that frame-by-frame technology is used in 2D and 3D animation (drawn and claymation-animated films), giving a dynamic nature to information. Frame-by-frame animation sequentially demonstrates a series of frames and is used to make changes to the time series. This method is close to traditional hand-drawn animation, only the role of a phase-shifter is performed by a computer: the hand-drawn frames are programmatically combined into a video sequence, creating complex phases of movement. Frame-by-frame animation is widely used in animation films, advertisements, games, educational programs.

Figure 4. Stop-motion animation: a – complex motion; b – linear motion.

Digital technologies changed constructivist epistemology. They allowed the manifestation of creative individuality, becoming a new aspect of modern culture. They are the next stage in the evolution of animation technologies, a new way of influencing a viewer. Digital animation is a highly efficient technology for the development of media content that allows creating animated advertisements using 2D graphics, 3D modeling, stop-motion animation, computer-aided cutout and the works that combine various technologies, the defining factor of which is the original concept that increases the efficiency of the animated work.

Motion design is becoming more and more popular as a kind of symbiosis of graphic design and dynamic animated graphics. For the visualization of statistical information, creation of a nonexistent environment for an advertising object, integration of a branded character, hybrid graphics are used in order to increase the effectiveness of advertising products. During the animation the following programs are popular: Adobe Animation, Ulead Animation, Ulead GIF Animator 5, CoffeeCup Animation Software, CoffeeCup GIF Animator, CoffeeCup Firestarter, Firestarter, Reallusion Animation Software, Effect3D Studio, 3D Max, Toonboom Studio etc.

3. Conclusion
New technologies had great influence on the form of motion design, significantly expanding the scope of such products. Motion design addresses us from on-screen street panels and banners. The works of motion design are becoming a means of global communication, going beyond geographic boundaries, acquiring interactivity, performing the function of activating attention, entertainment and information. These works (videos, screensavers, animated interface elements, etc.) open the facets of reality, not copying it, but increasing the number of visual forms of perception and knowledge of the surrounding world, creating other relationships with meaning, time, history and becoming an obligatory component of the media and advertising.

Being integrated into all the spheres of life of modern society, motion design indirectly affects the formation of public consciousness, even if this is happening through the culture of consumption nowadays.
In the conditions of highly increased information flows, motion design, again, as at the beginning of its appearance, is forced to use deliberate limitation of visual means in order to remain noticeable against the background of general “digital noise”. The means developed by first motion designers, avant-garde artists at the dawn of motion design: the contrast of scales, the capacity of verbal formulations, contrasts of form, font, the use of graphics and collage techniques, the use of color contrast, the symbolism of the hero's image encoded in a graphic sign (modern advertising hero), the use of editing techniques - are becoming a relevant tool in which modern designers use in order to create applied animation. More recently, the established toolkit has been supplemented by the possibilities provided by the limitless color range of computer graphics.

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