Abstract

Typography turns from existing static typography to dynamic one, which expands to a form that expresses visual, spatial and auditory images simultaneously by adding sounds and various effective elements as well as motions. For kinetic typography, depending on the method, length and position of the message by the characteristics of motion and temporality, the appearance, interpretation and reaction to it may differ. Thus, the ability of composing and delivering a message to deliver it as intended is an essential condition of effective communication. With the recent progress in digital media, functional and physical changes have been brought in the field of typography taking up new dimensions of space and time. This leads kinetic typography to seek communication through emotional expressions by maximizing visual formativeness as well as its literal features. This study examines the characteristics of kinetic typography used for effective communication based on case studies where the theoretical backgrounds of kinetic typography are reflected and substituted. The results show that kinetic typography has different characteristics of time, continuity, dynamic, and space, aims to establish user interaction through the stimulus-response model, and thus continues to expand the information delivery pathways. In addition, it was found that the use of effective kinetic typography would help convey feelings more properly with enriched expression.

Keywords: Kinetic typography, Expressing Emotion

1. Introduction

Men have used letters as a communication means for delivering information and the letters have produced typographies with various expressions. The letters have forms delivering connotative meanings, which are divided into the area of communication delivering meanings and emotions. Typography that had been expressed with types developed to a variety of digital typography with the development of computers since the 1990s. With the development of computer programs, it became possible to express the digital typography in various ways and interactive expressions are included in them.

For fast understanding and delivery, typography is expressed in various forms by changing size, color and position, and it cannot be denied that visual languages not existing in offline typography are expressed in various media. Typography turns from existing static typography to dynamic one, which expands to a form that expresses visual, spatial and auditory images simultaneously by adding sounds and various effective elements as well as motions. This dynamic typography is used in various names such as moving typography, motion graphic and temporal typography.

In a broad sense, in the category of kinetic typography, it penetrates into our lives and is used in all social, economic and cultural fields such as the Internet, ads, TV and films, and people make efforts to share and use visual methods for efficient communication. While existing letters fell into the visible in spatial area, kinetic typography is a method of expression adding temporal concept to the space. In addition, with up-to-date multimedia technologies, auditory, tactile methods of expression have been added so that kinetic typography came to express emotions in various ways.

Visual messages aim at clarity or ambiguity. In either case, the messages have layers of various meanings, and for those aiming at clarity, the message delivering devices plays a key role for the recipients to understand and interpret their functions. The components used to deliver each message imply or instruct its meaning. Even the same sign may be delivered in different meanings or may be delivered in various meanings even to one person but may not mean anything to others [1]. This problem of interpretation for a message aiming to deliver information is important.
For kinetic typography, depending on the method, length and position of the message by the characteristics of motion and temporality, the appearance, interpretation and reaction to it may differ. Thus, the ability of composing and delivering a message to deliver it as intended is an essential condition of effective communication. Thus, this study will analyze the characteristics and the principle of the expression of kinetic typography for the application of it to effectively deliver information and to find problems and seek for improvements and developments.

2. Typography in Digital Environment

Offline print media have strong materiality like texture felt directly by human hands while digital media have temporality and spatiality. Even if the digital media move within the limit of a rectangular monitor, but the diversity of sounds and motions is an important element that extends the possibility of expression of kinetic typography.

Recent technical developments plan diversification of the method of information delivery by using multimedia including images and videos in digital media and are characterized by delivering the concept of existing media with a linear structure that had delivered a message in a completed form with the concept of progression and the property of digital media. The digital media are in a form of complex information with letters and sounds and have an important strength of allowing interactions.

The rectangular monitor is a 3-D space giving motions of formative elements in the stream of time, which includes the concept of time and motion. The typography in these media does not any longer provide linguistic information in a stopped and limited space but carries out the role of bidirectional communication in a non-linear structure. Especially, typography in recent Internet, smart-phone or smart TV not only plays a role in delivering information but also mediates movement to information desired, which carries out the role of network node and link as a hyper text as well.

Compared to existing media like print media, the delivery of messages through digital media may be said to be interactive, but compared to the delivery of information through direct oral statement, it has a relatively poor ability of delivering accurate meanings. Currently, various attempts are being made to overcome this limitation of the digital media.

And yet with these digital media, people perceive all visual elements through the monitor, and in small monitor environment like smart phone, there is a limitation in showing thin lines, small fonts or the delicate description of the fonts. For web sites, in the process of obtaining information, too, they scroll the cursor on the monitor to see movements on the screen, and read the letters moving the positions of the fonts in the display not by simple eye movements or kinetic experiences, so they should keep an eye on the motions.

Reading the contents, they might miss a line or overlook the details of the information. In addition, the kinetic typography on the monitor has the form of the fonts which is unclear compared to the offline and the source of light for display also directly affect eye fatigue, so it has a limit in the system itself, which makes it difficult for them to see the screen for a long time. Thus, the excessive motion of kinetic typography is likely to add visual fatigue.

3. Communication and Typography

Jan Tschichold saw a typographer’s duty as easy design. In other words, the essence of typography is to help understanding and to promote effective communication. According to Jan Tschichold, ‘a new typography is to design texts so as to keep leading the reader’s eyes from one word and the group of words to the next group of words. Thus, what is important is design texts as the rational by the difference of size, strength, position in space, and color. In other words, the job of text design focuses on the rational delivery of texts rather than aesthetic purpose.

Thus, typography focused on formative idea deviates from essence. In addition, he said that the difference of the new typography from the previous one is that it tried to make external forms based on texts for the first time and summed up the functions of texts as the purpose of delivery, emphasis (linguistic value) and logical appropriation of contents. Since Jan Tschichold, typography has developed in the direction of seeking for the optimal plan for the delivery of the meanings of texts [2].
Gui Bonsiepe proposed the concept of ‘semantic typography,’ seeing typography as an important element of the interpretation and composition of texts. According to him, the goal of semantic typography is ‘arrange the structure of texts visually and give it a meaning.’ Newly designed texts can provide readers with an opportunity of obtaining information in a way that they had not experienced before, and consequently, even the methods of reading and writing can be renewed. There is a possibility that a new text emerges from the change in the composition of texts [3].

Visual language refers to written language different from spoken language includes handwriting, drawing, or mechanically made letters: virtually everything accepted by the eyes. Dealing with modern design theory based on Gestalt psychology, Gyorgy Kepes’s Language of Vision (1944) and Rudolph Arnheim’s Art and Visual Perception (1954) dominantly give perception superiority over interpretation. Aesthetic theories based on perception prefer perception to thinking power, seeing to reading, and physical immediacy to social intervention [4] [5].

Modern design pedagogy proposes that every human in every era commonly have universally visual abilities to overcome cultural and historical barriers [6]. In contrast, design studies attaching importance to interpretation argues that the way of accepting a certain image changes by time and place. They see so because images draw out meanings in customs such as form, symbol and mode, and relationship with other images or vocabulary. When we obtain information through visual language, if we purely depend only on perception, the visual language should visualize all information to deliver into images or letters. And yet, we do not understand meanings of signs like isotype as well as information given in texts only by perception.

In terms of interpretation rather than perception, images, objects and customs, too, form a context in which a language exists as long as they get involved in communication, and characterize the meaning of the language: Visual communication and linguistic communication are made together. From this point of view, texts also are not simply read as letters themselves, but they are interpreted by mobilizing visual effect in the same way as that of images in the spatial background in which the letters exist. In fact, spaces or juxtaposed images get considerably involved in the understanding of texts, and affect even the process inherent in the information the texts contain, so typography becomes a more important job.

Communication using spoken language has simultaneity while the biggest difference of written language from spoken language is its temporal gap. Mostly, the information delivered through written language is interpreted with a temporal difference, so it is hard for information providers to get feedback immediately and even if recipients have a question, the provider cannot answer it right away, so a fairly one-sided interpretation is made.

Through Cal Swann’s communication theory, it is found that there are two opposite definitions of it. The one is that communication happens when a message made from a source is received by a recipient through a certain means. In this one-sided process, the recipient plays only the role of interpretation. The other opinion is that communication is a participatory process, and for a message intended to be delivered, the recipient shares proper cultural interpretations of signals and accordingly makes interactions [7].

In communication through digital media, recipients often play a subjective role of the process of information delivery like the latter opinion of the definitions in Cal Swann’s communication theory, and through the feedback by the recipients, interactive communication is made. And yet, feedback which is different from face-to-face conversation between two people may occur, and the action itself at the time of interpretation may be considerably one-sided.

For a case of information delivery through actual conversation, in addition to simple spoken language, complicated interpretation is made through various perceptual elements. Especially, human expressions are visual signs that play an important role in the situation of communication. Rather, they have an ability of primary expression delivering the state of emotions more directly than language. Speakers can induce or manipulate recipients’ interpretation as they intend through the simultaneous use of language and visual signs.

The recipients get information beyond that delivered in a simple language through the combination of various signs in the process of communication, and show different feedback to their own interpretation. This process is complicated, but it is processed simultaneously with the enunciation of the information. This is the biggest difference between the communication through direct conversation and indirect communication using visual tools.
4. Kinetic Typography

‘Kinetic’ was originated from the Greek word, ‘Kinesis’ meaning a movement and ‘Kitnetok’ meaning a motion, so kinetic typography means that the letter itself moves or the part of movement is assembled. The term, kinetic has been used in Physics and Chemistry, but starting from Duchamp’s sculpture, Mobil made with bicycle wheels in 1913, through Naum Gabo’s work, Kinetic Sculpture, it was used in the field of formative art for the first time, and it was fully on the rise in kinetic art in the 1950s.

Kinetic art in the 1960s was done with typical aesthetic elements such as light, motion and sound, and in the 1970s, it moved to ecological methodology of or physical approach to water, fog and smoke, and in the 1980s, with the development of technologies, it developed in connection with video art, laser art and state-of-art technologies of holography. Consequently, these changes mean a change into kinetic art attaching importance to various effects and results from the motions of mechanical devices, and in the modern times, with the developments of the Internet and software, it has been positioned as a new field of art or design, spreading to a broader concept referring to all moving environments.

4.1. Characteristics of Kinetic Typography

Kinetic typography delivers information through common expression elements with static typography. Basically, since it is based on letters, the characteristics to which importance is attached such as the size of the letter and font by static typography still play important roles. And yet, it is differentiated with the characteristic of temporality from static typography. Typographical variables keep changing in relation with temporal variables. Suguru Ishizaki in his Kinetic Typography proposes a design model that individual word is like actors who make a series of performance for readers. The formative aspect of each design component acts like tone, volume and rhythm, the characteristics of spoken language and expands communicative functions.

Concretely, through the gradual expansion or disappearance of letters and effects of appearing with a time difference, a specific part can be emphasized. It is seen that this method may bring about a totally different meaning from the methods that can be used in static typography, and more ‘psychological’ delivery is possible. Kinetic typography comes to satisfy the properties of general typography as above in a method different from static typography. The characteristics shown in the process are as follows:

**Temporality**

A motion occurs by the flow of time in space and people perceive constant changes as motions. Ruder Emill mentioned that ‘typography is always accompanied by reading processes, so no completely static typography can exist,’” but formative temporality is the characteristic of kinetic typography only: shot, scene and sequence come under this. Psychological temporality refers to the time of emotions and to the sense of speed or tempo at which people feel kinetic typography. This is not an objective or physical time but subjective one users feel and a psychological time edited and reconstituted by the users subjectively: speed, tempo and rate belongs to this.

**Continuity**

Continuity refers to a shape or the group of shapes having directionality and being arranged in the way which look continuous. This can be the proper characteristic of the shape or the group of the shapes. Complete words or sentences can be completed by presenting one letter at a time or by applying RSVP the sight is fixed and continuous texts are shown.

**Dynamics**

Dynamics in offline is the movement of sight with changes in size, color and position, but kinetic typography refers to changes through variation of speed, advance and retreat, horizontal or vertical movement. The point that cannot be overlooked in kinetic typography is that there is a movement in a motion. Since there is a limitation in providing long descriptions in the limited screen by kinetic typography, it is often used to induce users’ eyes on key elements, and these elements appear in an intensive form. It can be said that kinetic typography has moved approach from the concept of texts to
images, a visual element. It is easier to express or deliver emotions using dynamics than in static typography, and the effects increase further if sounds are added.

Spatiality
Kinetic typography is 2-dimensional in geometry, but according to perspective, it is expressed in 3D space with axes X, Y and Z. In general, humans live in 3D spaces, so they can perceive the concept of 3D space better than that of 2D plane, and the elements helping understand the concept of space include conceptual ones of point, line, face and volume. In addition, the spaces on the Web are a concept of hyper link, which may form a concept of multidimensional space by interaction.

Meter
Metric elements of typography include intonation, stress, pause, rhythm and tempo. The basic of meter is repetition, through which a tune occurs. Kinetic typography controls psychological temporality through the motional repetition or temporal repetition, providing regular or irregular meters. These meters are a method of delivering emotional images through the control of speed in kinetic typography: e.g. time, stop, re-play.

Interaction
Kinetic typography on the Web or smart devices presupposes communication, so it is good to make changes in the order or direction of presenting information, and using the property of kinetic typography, interactions are promoted through users’ reactions, and the shift of directions to another page or channel is often presented. Users approaching kinetic typography perceive the entire page actively and there, an attention to motions is produced so that their eyes are concentrated on them and interested in them, and consciously or unconsciously, they progress interactions with potential memories. In contrast, in passive approach, at the step of perception, the step of attention and stimulation is omitted to go on to the step of memory, so the probability to reach interactions decreases compared to active approach.

5. Gestalt Theory and Kinetic Typography

Gestalt is a German word meaning a shape or form, and Gestalt theory of image perception was argued by German Psychologist, Max Wertheimer, inspired by the fact that during a travel on the train one can see the outside landscape even if the window frame partially covers the sight.

Law of Similarity
Human brain prefers simple and stable forms and tends to see things in pattern by grouping similar visual elements in form, size and color. The grouping tends to make similar visual elements look related like a group in size, color and texture as well as formative characteristics. Men chose the simplest and most stable form to focus. This law stresses the importance of the most basic shapes such as square, circle and triangle. They want the brain to keep simple stimulating forms if possible and the simple form that can be perceived by the brain to deliver simple meanings.

This is consistent with simplicity, the logic that the figures in basic simple forms proven by perception psychologists through experiment can be perceived more accurately or easily than complicated forms by geometrical forms or free curves. The law of simplicity in kinetic typography meanings and feelings are delivered with formative similarity by association of similar shapes in visual unit and form. Kinetic typography on the Web should arrange characters so as to group them within a certain time, which is for making perception convenient in time and space by the nature of the Web. Temporal part should not be overlooked in the law of similarity.

Law of Proximity
The law of proximity refers to a tendency of trying to see visual elements physically close as a pattern or group and perceive them as a mass. proximity applies not only to spatial arrangement of adjacent visual elements but also to temporal arrangement of events. The principle of proximity can apply to periodical repetitions such as the direction of letters or the shift of scenes and movements occurring close temporally.
Fig. 1 shows the impacts of the adjacency of distance between individual letters on the delivery of meanings. To deliver meanings clearly to users, the proximity of common elements should apply and the movements or speed of appearance of letters on the Web, also, should apply by adjoining common elements for inducing stable visual flow or delivering accurate information.

**Law of Continuity**

Continuity refers to the tendency of seeing visual elements or groups of incomplete forms in a continuous state and perceiving directions, which is perceiving directionality through batch repetition of the elements and grouping even the empty space of the structure itself continuously. A phenomenon of perceiving the state with the least change or stopping with directionality and motility as being superior for an overlapping element is the law of continuity. This phenomenon usually has a close relation with the scene shift in kinetic typography, and there should be no difficulty in information delivery by giving continuity to the arrangement of temporal elements as well as spatial elements. This is because excessive changes make users not be able to perceive the continuity of the shifted scene.

**Law of Uniform Destiny**

The Law of uniform destiny is also called the Law of common mobility, which refers to the situation in which things with the same flow are differentiated from those with different flows when similar things have a regular flow. In other words, it refers to a property of a combined perception of visual elements with a certain Law, which often acts superior to proximity or similarity.

In the screen in Fig. 2, the arrow toward right and one toward left are perceived as different groups. The Law of uniform destiny in kinetic typography increases the predictability of the screen to be suggested next through repetition or regular effect as an important principle of motions, allowing the delivery of information effectively.

**Law of Completion/Closing**

The Law of closing, which means that when incomplete visual elements show a connectivity, one tries to perceive them as complete forms tends to try to complete parts with assumption.

Letters in Fig. 3 are visual elements with separated joints, but due to the desire for closing of perception, incomplete parts are corrected and supplemented so that they are read as a ‘kinetic typography’ with the completion of forms. And yet, if the generality of the incomplete elements are not perceived, one comes to get nervous, impatient and anxious, so in using these visual elements, always, their completion should be provided in the form allowing assumption.

**6. Emotional Expression of Kinetic Typography**

**6.1. Second-order headings**
Size
Size refers to enlarge or reduce letters, producing a spatial sense of depth. Reducing the letters delivers a feel of retreat and enlargement delivers a feel of protrusion or an emotion of emphasis. The change in size makes the letters disappear with Fade in or Fade Out completely, which is used a shift of scene or the development of the next story.

Distortion
There are various methods of expression in the distortion of letters, which is very appropriate for providing users with exciting visual fun and expressing emotions. Applying Blur and blurring letters can produce soft and light feels and dreamlike atmospheres, sharply torn letters can imply fear or consciousness of crisis, and fragmented letters can allude chaos.

Dimension
This is a method of shading or adding a 3D element to make a plane look solid, which adds decorative effects or gives it perspective, so it can control the dynamics of emotions.

Layering
This is application of opaque, transparent and translucent elements to letters or the visual elements surrounding the letters, and through the overlapping of opaque elements, rupture of emotions is signified, or the fluctuation of complex emotions can be expressed using the functions of overlapping transparent and translucent elements.

6.2. Emotions by Position

Arrangement
Aligning the positions of letters related to the internal area or boundary of the screen is called arrangement, and regular arrangements or motions not deviating from the screen are called the accord of arrangement and the motions occurring at the boundary or outside of the screen is called discordance. The discordance of arrangement is accompanied by greater motions than the accord of arrangement, which is good for attracting users’ attention.

Sequential Access
In sequential access, the emergence of letters on the Web keeps an accurate distance from the preceding letter or sentence or induces a visual flow by proposing a consistent movement. Since the appearance of letters or words on the screen in an irregular movement damages users’ readability, the letters or sentences should consider the reading environment of the cultural area to which the language belongs. The bottom-to-top movement is good for the use of long sentences and the top-to-bottom movement can empathize emotions of emphasis by joining the temporal element of stopping at the center of the screen and maximize emotions by giving a sense of speed, a temporal element in sequential access from any direction to give tension.

7. Conclusions

Modern technologies developing day by day allow people to attempt a variety of typography in the streams of time and space of the Web and for designers producing kinetic typography to deliver rich emotions, inspiration and messages in the expressions of letters.

Whether motions exist or not, the Web without kinetic typography cannot be imagined, and users cannot but accept information about letters mass produced whether they like or not. Thus, in the information mass produced, providers should deliver information in an accurate form more effectively and before that, they should induce attention and interest and the message delivered to be selected by users. In addition, it is necessary to use mass information moderately so as not to be a noise of letters.

This study investigated the characteristics, the principle of expression and the expression of emotions of kinetic typography, which would be a good basic data for designers who provide kinetic typography. In the future, more in-depth studies on the harmony between the visual elements such as colors, forms and photos and the auditory elements like sounds of kinetic typography on the Web should be carried out.
8. References