New visual trends and language in Internet communication - emoji and beyond

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Abstract

This paper discusses some aspects of the current state of information technology design and its global distribution, particularly the shift towards East Asia. Because the cognitive basis of ICTs is the Western science, which dominates research and education, the logic of systems and applications has been purely based on Western science. Moreover, the psychology behind the usability and user interfaces of the devices and applications is based on research made predominantly among US college students. However, the situation is changing fast. Japanese innovations such as video games, CDs and digital cameras already have a tremendous impact. Additionally, changes in the global user population will have an effect on the products, in particular caused by the growth of the Chinese economy. The R&D of ICT products increasingly will take place in the East, therefore cognitive requirements of technical systems and mobile applications need to be globally considered.

The paper also aims to give fresh perspectives to the use of ICT in a multilingual world. The dominance of English in computer systems is strong but how quickly will it fade when new visual modes of communication emerge? A new communication style has started with the use of cute little symbols called emoji, which are not connected to any language but carry predominantly affect. The origin of emoji is in Japan where the telecommunications companies started to add them to keyboards of mobile phones in 1999. Emoji are connected to the Asian communication culture that relies on symbols. Emoji use and its future in different parts of the world is reflected upon.

Introduction

The emphasis of technology use and development is experiencing a global shift from the industrialized Western countries to the growing economies in Asia and in the Global South (ITU 2018). According to UNCTAD, Asian economies are larger than the rest of the world already in 2020 (Romei & Reed 2019). This paper discusses current economic and technological trends and their future implications to the kinds of technology we will be using and how it might affect cultures and education in unexpected ways. As an example of a cultural phenomenon that has non-Western roots, emoji are presented, and the quickly changing nature of their use is described.

Theoretical position

The study is located in the field of future studies, in the intersection of social and technology studies. In particular, it takes a position of postcolonial studies that sees cultures of the world becoming integrated. The earlier dominance and privileged position of the West is necessarily weakening as a consequence of the fading economic and innovative dominance. Homi Bhaba (1974) outlined the agency of the colonized, a resistance to colonialism in the third world as well as among immigrant communities. He stressed that cultures are part of an

ongoing process, and that cultures are formed in the hybridizing process. They are not stagnant but continuously invented and narrated. I see that this is taking place globally on the internet communication platforms.

Development of information technology and internet culture

The first computers were in use 80 years ago, with still very different technologies than today. It took more than 40 years to develop computers for personal individual use. Similarly, internet was developed around 50 years ago in the United States for military and research use. Information technology has been very markedly based on Western science and modes of thinking. The technologies are still mainly developed by US and Western companies where the employees share a similar schooling background, science education and behavioural norms, as well as cognitive styles. Therefore, the logic of systems and applications is purely based on western ways of thinking. Moreover, the psychology behind usability and user interfaces of devices and applications is based on research made predominantly among US college students, who are not a typical population to represent the psychology and behaviour of the world population (Henrich, Heine & Norenzayan 2010). Assumptions on shared conceptual meanings and structures are not necessarily valid in other cultural contexts. As an example, the "tree-structure" that is commonly used in biology or information processing, is not natural in some African cultures, and therefore does not clarify information for people of those cultures, as Walton, Vukovic & Marsden (2002) and Holvikivi (2009) have noticed.
See more at http:/www.myajan.org/papers/***Positionpaper2.pdf***

Furthermore, consumer products have been developed for markets in affluent countries with high purchasing power, first of all for North American and European consumers. People with less means have to adapt to whatever is offered on the market. People in Asia, Africa and Latin America have predominantly been secondary consumers and in no way involved in the development process. However, the most active internet users are currently in South-East Asian and Latin American countries, Philippines leading the statistics with over alleged 10 hours a day in 2018 (Lamb 2019).

The Japanese industry was the first outside North America and Europe to start competing product development, and it has introduced a variety of technologies such as CD, DVD, digital cameras, video games, robotic applications, etc., which have succeeded globally. Along these technologies, cultural products including the manga and anime have gained global following. Other East Asian countries have followed the lead with the success of K-pop, and mobile phone development. The changes in the global user population will certainly have an enormous effect on the products in the future.

China is the leading manufacturer of mobile devices, as well as drones and GPS related systems. The R&D of ICT products increasingly will take place in the East. Even 60-80% of Artificial Intelligence research is already done in China, according to some experts in the field (Ollila 2019). It is the leading country in face recognition technologies and use, which are in place for controlling the population. As the Chinese banking system was not constrained by earlier solutions and technologies, it has leaped to the most advanced payment practices and mobile payment is dominant over credit cards or cash. The purchasing power parity (PPP) of China is already the largest in the world. (Romei & Reed 2019; Allison 2017, Kauffman 2019)

Visual communication and character systems

The Western Latin alphabet is one of the simplest writing systems. It is closely related to other Greek-derived alphabets such as Cyrillic writing used in Russia. The Arabic consonant system is historically related to alphabets, but written from right to left. Chinese characters are complex in appearance and meaning, a writing system that contains thousands of logograms that can be pronounced in several ways. The perception of an individual character is visually more demanding than that of alphabetic letters, as one character may consist of up to 23 strokes. Writing Chinese characters requires good hand movement control and visual memory. Moreover, Chinese is written in varied directions, including from left to right and top to bottom. Japanese writing is a combination of Chinese characters and syllabaries devised for the pronunciation of Japanese language, analogically to Korean. Additionally, other important writing systems include various syllabic writings in South and East Asia, such as Hindi, Bengali, and Thai.

Reading as a cognitive process is somewhat different when the characters are not alphabetic but logograms. Pictorial expressions are processed by different parts of the brain than alphabetic text. There are differences in reading, processing numbers, and doing mental arithmetic in people who use predominantly logographic or syllabic characters (Chen et al 2009). Most probably these differences could extend to computer-based mental functioning, as well.

See: http:/www.myajan.org/papers/*brain_and_scripts.pdf* for more discussion on writing systems and cognition.

Until recently, computer operation and even programming languages have relied on one single language, English. For a long time, the use of English and its alphabet in all telecommunications constrained users of other languages and strengthened the global dominance of English language. It was feared that English would be the only important language in the future (Crystal 2010). Even though keyboards for other languages have been available, people sometimes chose English for convenience reasons for example when typing SMS on mobile phones (Jones & Marsden 2006).

The English alphabet uses only 27 characters in upper and lower case, and all early computer systems were predominantly built to use that character set in textual communication, following American standards such as ASCII and ANSI. As most European languages have more alphabetic characters, they were added to code sets as alternatives. Later, Cyrillic, Greek and Arabic characters were added, and finally, the Unicode recommendation that was drafted in 1988 recognizes all world's languages and their writing systems (Unicode.org). Despite the creation of an industry standard, it has taken a long time to include all characters into existing computer systems. Because of the complex writing system of the Japanese language, ideogram and syllabic alternatives were developed early in Japan. Currently, all Asian languages can easily be written using mobile or computer keyboards, including Chinese, Hindi, and Arabic.

Emoji

A new communication style has started with the use of cute little symbols called emoji, which are not connected to any language. It is not surprising that the origin of emoji is also in Japan where the telecommunications companies started to add them to keyboards of mobile phones in 1999. Even though emoji can be conceived as an extension of the text-based emoticons such as the smiley, they are also connected to the Japanese communication culture that has favoured cute images and symbols already for decades (Gn 2018). Routinely, the authorities in Japan soften orders and prohibitions by sweet pictorial

expression such as childish traffic signs (figure 1: Japanese traffic signs). Emoji also fit rather seamlessly to the Japanese writing that habitually includes four different types of characters (hiragana, katakana, kanji and Latin alphabet). The word emoji is Japanese and means picture-character (Davis & Edberg 2018).

Figure 1: Japanese traffic signs

To understand the roots of emoji, the Japanese cultural trait called kawaii, cuteness, has to be acknowledged (Gn 2018). According to McVeigh (1996), "cute objects are encountered everywhere in Japan: in advertising, company logos, everyday objects and pornography; and in government-sponsored public safety posters. These are smiling children, tiny bunnies and beaming bears that are used to inform, warn, advise, admonish and shape opinion. Cuteness communicates power relations and power play, effectively combining weakness, submissiveness and humility with influence, domination and control." It has been argued that cute fashion and personas were emblematic of young women's subversion of traditional norms in the 1970s. Moreover, cuteness can be analysed from socio-biology, psychology and semiotics, but it certainly has universal appeal beyond Japanese customs.

The emoji are currently included in the Unicode being therefore global and accessible from any device connected to internet (Unicode 2019). Each emoji has a defined name in the code but people do not necessarily know the names or intended meanings when they choose to include some emoji in their messages. Therefore, the emoji carry varied meanings depending on the user community, platform, or individual user. No correct code for usage can be devised universally. In fact, there are heated discussions on this such as the meaning of the most popular emoji, the loudly crying face (Kelly 2018), fig 2. There are also

culturally sensitive emoji such as thumbs up which can be offensive in some countries despite of giving a positive signal in many others. Many original Japanese emoji are not understood in the West, for instance the monkey emoji that refer to a Buddhist story of a wise monkey that sees no evil, hears no evil, talks no evil (fig 2), (BBC Newstracker 2017).

Figure 2: Popular emoji: loudly crying face, monkey see no evil, hear no evil, talk no evil

The emoji are hugely popular in China where local varieties exist on platforms such as WeChat. Moreover, the pictorial expression can be used for hidden messages and to recode the words of the message because Chinese characters often convey one idea or word, as well (Yan 2018). The emoji have been used to avoid censorship, such as the ban to say #metoo, which could then be expressed by characters for a rice bowl and bunny (🍚🐰). (fig 3). China also has a vibrant emoji producing industry where new images and stickers are produced on-demand.
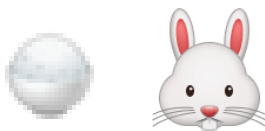

Figure 3: Metoo in Chinese emoji

Research on emoji use is accumulating fast (Evans 2017). Many studies have analysed emoji use by text context or country differences, especially in Twitter where the API allows downloading of large data sets (Coats 2018, Emojitracker). However, Twitter is a platform for political and business communication, which is not the most typical area for casual or personal messages, but as the API access allows on-time follow-up, it is analysed best. According to the World emoji day statistics (at https://worldemojiday.com/statistics) from July 2019, emoji users tend to be younger and more often female. However, when new social media applications for workplace use gain popularity, emoji will probably enter also more formal contexts.

Actually, Instagram is the most typical platform for emoji, and already in 2016 nearly half of Instagram messages contained emoji (Davis & Edberg 2018). Emoji users are young people who use them for expressing affect. Emoji are carriers of feeling rather than factual information. Emoji are phatic, which means they are 'used typically for establishing social contact and for keeping the lines of communication open and pleasant'. They soften the message, making it less threatening. Certain emoji are popular all over the world with laughing or crying faces and heart symbols on top of the list. Because emoji most often carry a positive or humorous meaning, they lighten up the feeling of the conversation (Hern 2019). As neuroscience has proven, seeing happy faces invokes a good feeling, as thus emoji can be beneficial for their users (Gantiva et al 2019).

Use statistics show differences between geographical areas and among countries, typically in use of heart symbols, drinking, or comical emoji, and the frequency of use but they do not remain constant over time. The popularity of heart symbols seems to have exploded in the last few years, as the following images (fig 4 and 5) illustrate. Emoji have made cuteness more acceptable even in unromantic cultures such as Finland. Moreover, Instagram encourages spread of "kawaii" by suggesting emoji reactions to stories.
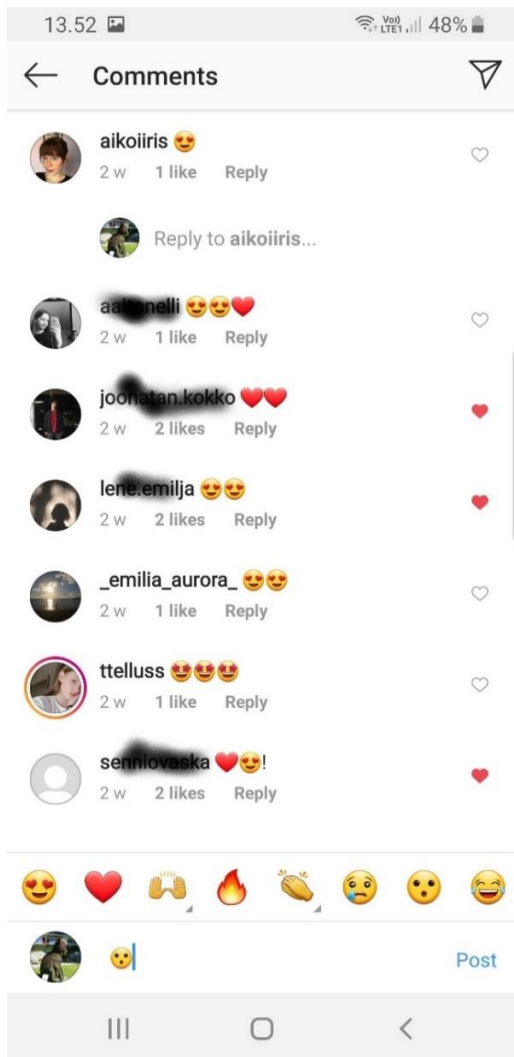
Figure 4: Instagram screen capture of communication of female teens in Finland April 2019

On the other hand, the empty commercial cuteness such as popularity of Hello Kitty figures reflects kind of meaningless positivity. Part of this phenomenon is the search of pretty image or beautiful photo without real context. An extreme illustration of this is the poison lake in Siberia which has a beautiful turquoise colour and has attracted crowds of instagram photographers (Roth 2019).

Figure 5: Sale rack in a department store in Scotland in June 2019

Conclusion

Despite the active research interest, it will be hard to predict the future importance of emoji as a means of communication. The Unicode consortium is dominated by US based technology giants and their representatives, who are not sufficiently aware of the variety of cultural expressions. Will the emoji be a new global "language" or replaced by something else soon? Their similarity to logograms in some aspects might be important in the future. The flourishing Chinese industry for new pictorials might have growing influence in the future. In any case, the emoji are a good example of challenges to the dominance of English in global communication, and they illustrate the extremely fast spread of new fashions on the internet.

Evidently, the visualization of internet and mobile communication could also be studied from the perception aspects, as well as from the emotional point of view, which opens up numerous interesting questions for future study.

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