Pictomoji

Visual Language with Pictograms & Emojis

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The computer is not only a better typewriter, but also a new kind of typewriter for visual writing. So far, emojis are the best example of this. Pictograms have not yet achieved the same digital state-of-the-art. To be used like emojis, they must be typographically adapted to letter size, and embedded in digital fonts. Then, we have to figure out how to combine both types of visual characters in a hybrid writing system based on the same grammar. Such a project will particularly benefit from an input method that Apple introduced in 2020 with iOS 14, similar to the Chinese input system. It links words to emojis in a menu bar, and a simple tap can illustrate or replace words with emojis - or possibly with pictograms.

What does this mean for design theory and practice? The current technological, graphical, and linguistic evolution of a visual language will extend the usability of human-computer interfaces beyond the use of icons and expand human communication via computers far beyond emojis. Moreover, computer-controlled machines can also be regarded as new kinds of printers transferring images onto wood, metal or stone. Visual writing thus has all it takes to spill over from computer interface to the surface of product design, where ornament once played a major role aesthetically, culturally, and economically.

On the Digital Road to Visual Writing

As early as in the 1980s, the media scientist Vilém Flusser noticed that the "logic of digital technology" favors visual languages and typefaces (2). At that time, however, visual characters, such as pictograms, could consist of only a few pixels if they were to fit into a line with letters and numbers. Early examples of this could be created on Macintosh computers using MacPaint, a bitmap-oriented program introduced by Apple in 1984. Of course, current emojis can include many more pixels while still fitting into a line, but in terms of visual grammar, these early pictograms were already some steps ahead. For example, using full body language and oversized hands - see Mickey Mouse - they could clearly display personal pronouns like "I" and "you" as well as auxiliary verbs like "want" and "have" (see Fig.1).

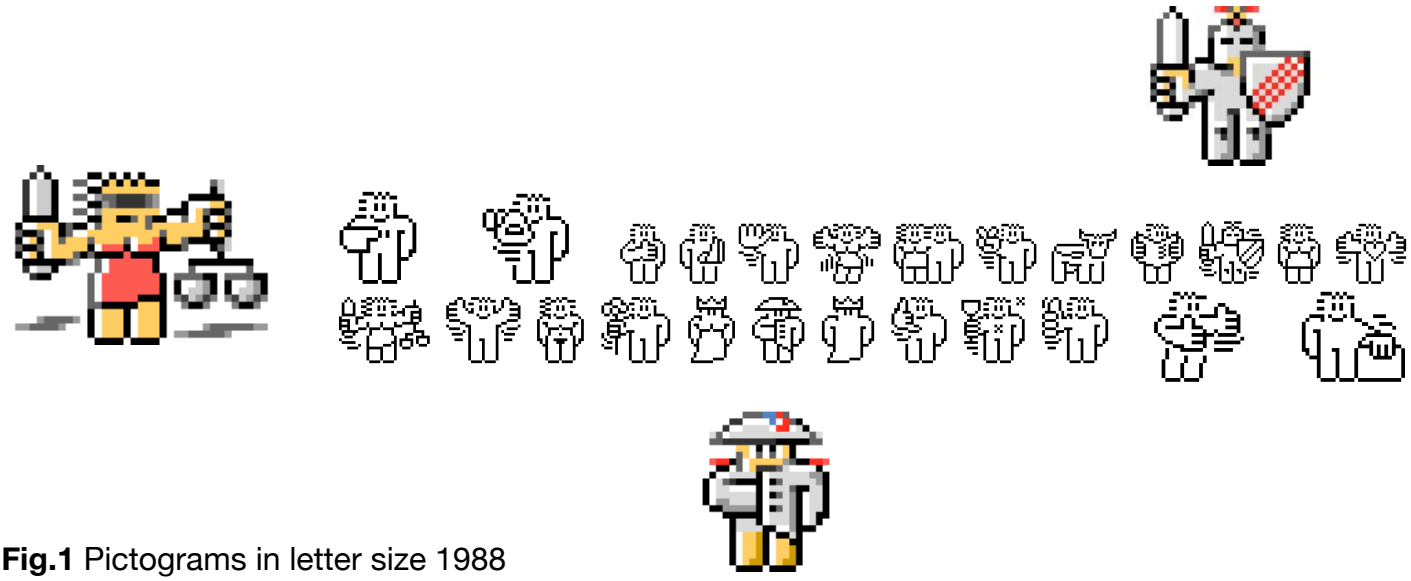


Fig.1 Pictograms in letter size 1988

With pictograms representing words, it seemed only natural to design a visual grammar that emulates verbal grammar. This approach was introduced in 1993 as *New Pictorial Script* in the *Digital Fictional* exhibition at the Carmelite Monastery in Frankfurt, Germany (3). Ten years later, a basic vocabulary of linear pictograms using the same grammar could be integrated into a digital font, essentially like today's emojis. This pictogram font was presented at the international design congress *Typo Berlin 2004* and further developed as *A Language of Icons* in the book *Pictograms Icons & Signs: A Guide to Information Graphics* (4). The next milestone in this work, *Pictoperanto - Pictograms, Icons, Pictorial Fonts* (5), appeared in 2011. This book outlines all the basic features of a regular visual language and presents its visual text with the previous pictogram typefaces and an additional pictogram font in the classic black-and-white style (see Fig. 2).

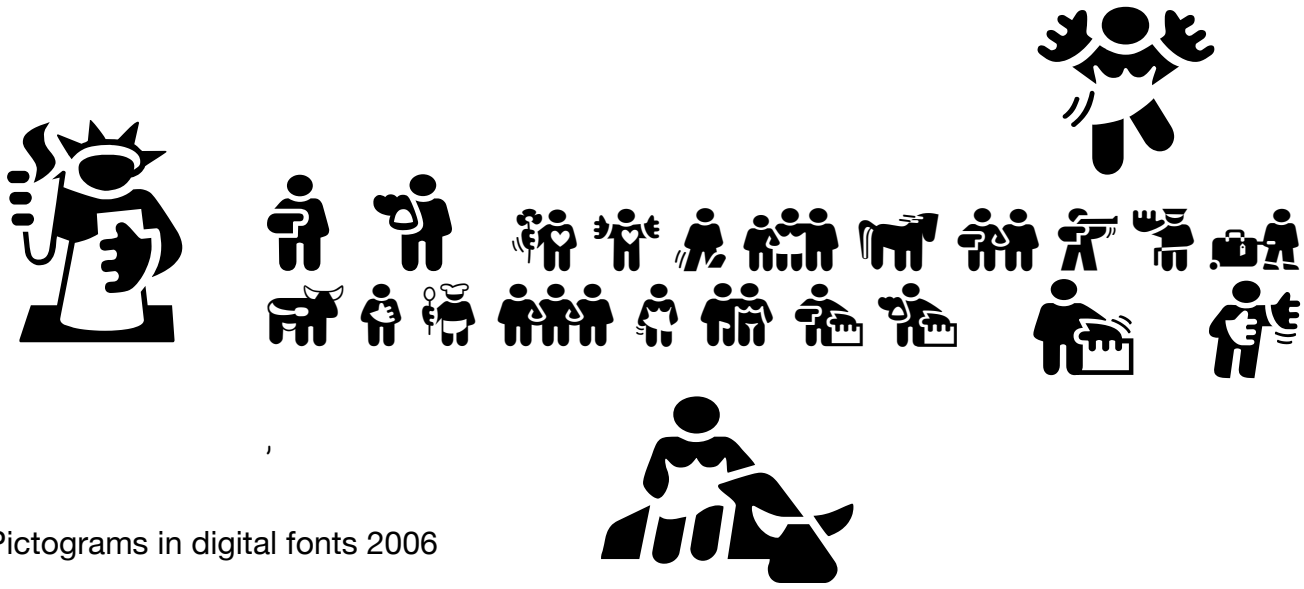


Fig.2 Pictograms in digital fonts 2006

The advent of emojis changed the game. Relatively abstract pictographic characters were joined by photorealistic picture (e) characters (moji). These emojis looked more appealing than pictograms, and due to their popularity, the method of digital picture writing was developed for general use in a manner almost comparable to the historical step toward universal literacy. Nevertheless, even with 3000 Emojis, it is still impossible to write a regular sentence with them. Pictograms, on the other hand, have long visualised key terms in sentence-building such as "I" and "you". This presents the opportunity to combine pictograms and emojis in a hybrid writing system, which we may call *Pictomoji* (see Fig. 3).

Fig.3 YouTube Video (6) 2021

Compound Terms

Pictomoji first requires taking a fresh look at emojis, regarding them less as emoticons and more as visual characters. After that, it makes sense to expand the vocabulary of single emojis to include compound terms like 👨‍🍳📖 "cookbook". Compound terms are the simplest and most common grammatical pattern across all languages, and people today can combine emojis in the same way. This, in turn, makes it possible for visual compound terms to emerge and take hold in everyday chats, much the way compound terms emerge in any spoken language. Sooner or later, Unicode (a consortium of Apple, Google & Co) might also introduce composite emojis meaning, for example, *climate (world-weather)*, *solar energy* or *global warming* (see Fig. 4). Until then, however, the combination of existing emoji is left to the creativity of us all (see Fig. 5).

Fig.4 Composite Emojis

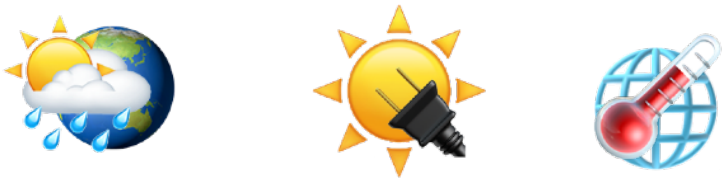


Fig.5 Compound Emojis

Sign-Typing: The Decisive Step to Usability

The state of the art in visual writing is determined not only by letter-size typography, digital fonts, and visual grammar, but also by *sign-typing*, that is, the typing of emojis and pictograms via the keyboard. This process has been made possible, if not yet perfect, by programming digital fonts like Times and Helvetica to automatically replace words with pictograms (7). In principle, such fonts could also replace voice input with pictograms, for instance, the spoken phrase "I go to school" might appear as seen in Fig. 6. The animation of this input can be seen on YouTube (6).

Fig. 6 Pictogram-Typing

Emoji-typing, on the other hand, appeared first when typing Chinese using the PinYin method. For example, if you enter "che" (meaning "car"), a pop-up menu offers the option of writing the word either with a classic character or with an emoji. Pictograms could certainly be used in the same way, if only to visualize terms for which no emojis exist (see Fig. 7).

Fig. 7 *Emoji-Typing*

Apple introduced essentially the same input method as had appeared in China with iOS 14 in 2020 (see Fig. 8). This method is likely to prevail as it is not only the most user-friendly, but also offers a choice of "synonymous" emojis and their instant access to the ever-growing vocabulary. Generally speaking, sign-typing is nothing less than a quantum leap that erases all of visual writing's previous technical and economic disadvantages when compared to the alphabet.

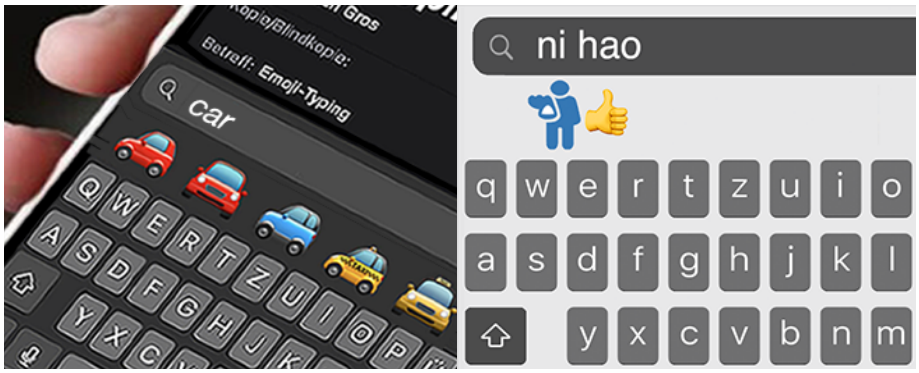


Fig. 8 *Emoji-Typing*

Pictograms & Emojis

Pictograms are indispensable in any self-evident visual writing system because they are best suited to representing abstract terms, such as "I" and "you". The photo-realistic style of emojis, by contrast, assumes that they represent a real person, but who determines that person's gender, age, hairstyle, skin tone, clothing, and so on.? The same problem becomes even more apparent with terms like "human", "friendship", or "community", the meaning of which imply a strict abstraction removed from all variable characteristics (see Fig. 9).

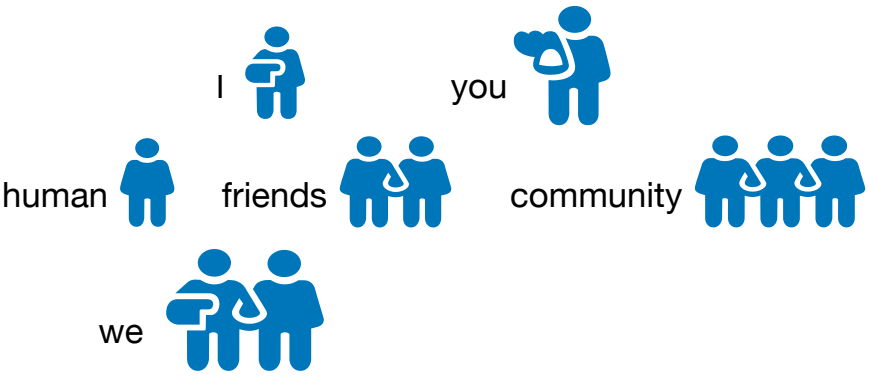


Fig. 9 Abstract terms

Pictograms of classical modernism contain neither individual nor artistic features, but follow the conditions of concise perception and printing. In the present case, this means that all pictograms must meet the requirements of a clear representation in letter size, even if this leads to unrealistic and unfamiliar proportions. These pictograms are therefore less like images than signs; they are less emotional than functional. However, unlike the strict rationalism of classical pictograms, a hybrid visual writing system that includes colourful emojis, can also express strong emotions wherever this would be meaningful and appropriate. In theory: with *Pictomoji*, the dialectics of designation and connotation, of function and emotion, of the abstract and the concrete could find a synthesis in the combination both, pictograms & emojis (see Fig. 10).

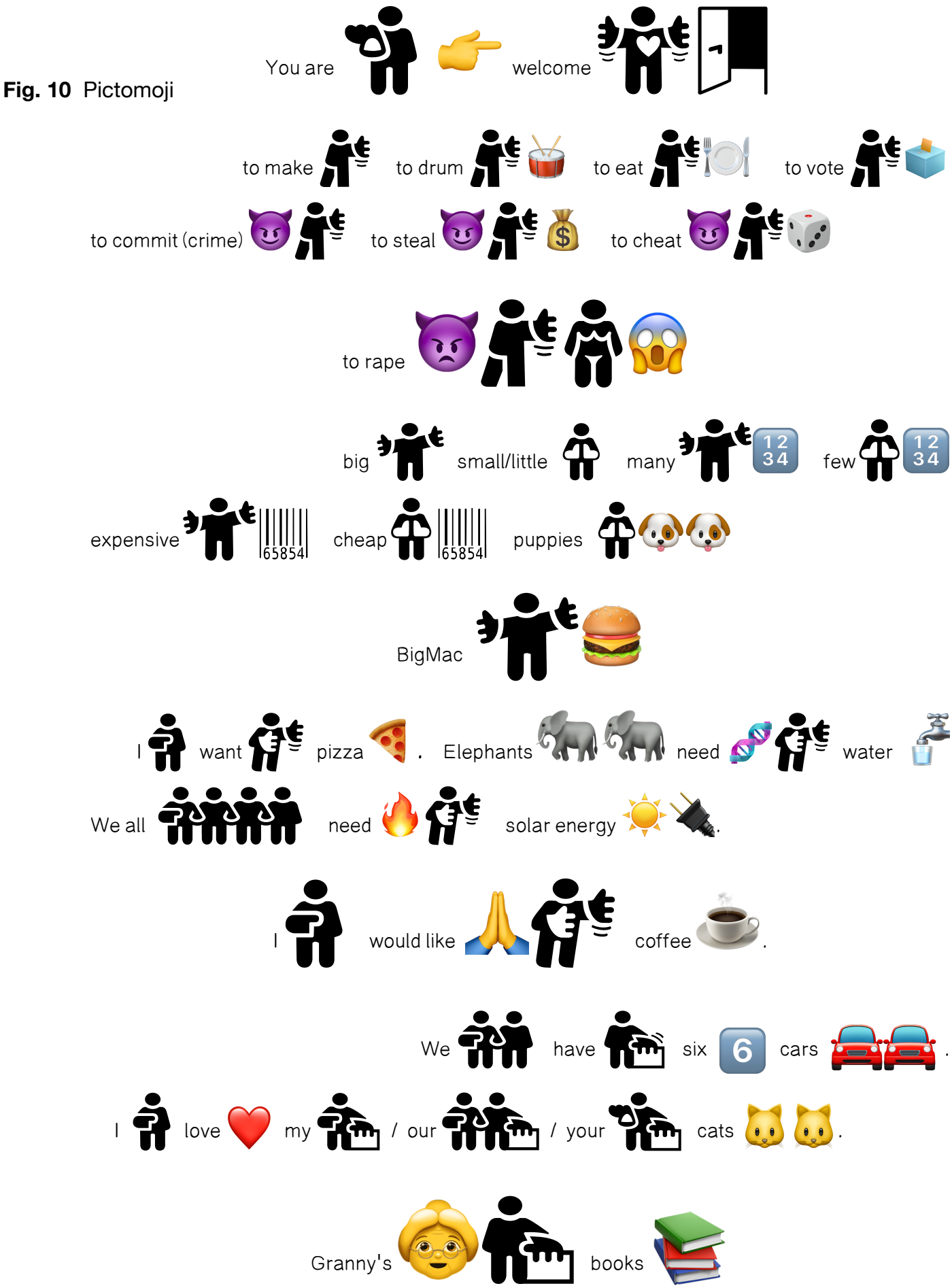
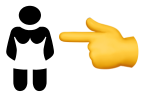


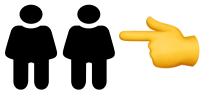
Fig. 10 Pictomoji

traveling  around  the  world 

We  are  from  England  .

She  is  dancing  in  the  rain  .

I  like  to  go  fishing  ..

They  really  love  hunting  .

Very  angry  people  can  kill  you  .

 Kiss  me  !

Pizza with shrimps  tastes  good  to  me  .

When  comes  the  train  from  Tokyo  ?

I  went  home  .

The  soccer team  will go  at 9 o’clock  .

My  parents  are  sleeping  at home  .

I  will have  eaten  fish  .

Emoji-Language Kickoff ((🦶⚽

Pictomoji, as exemplified here, serves merely as a signpost on the road to visual writing, but with this goal ahead, even the current emojis can take visual writing quite a bit further. All you need to embark on sentence-building are the makeshift "translations" of a few key words, first and foremost: "I" 👉🙂 and "you" 👇🙂 . The iBook *Emoji-Language Kickoff* (8) already anticipates what might emerge from this approach, especially because today, anyone can enter their favourite emojis and emoji combinations into autocorrect or the system settings (9) in order to automatically replace or illustrate corresponding words. In this way, you can virtually anticipate general emoji-typing with custom combinations.

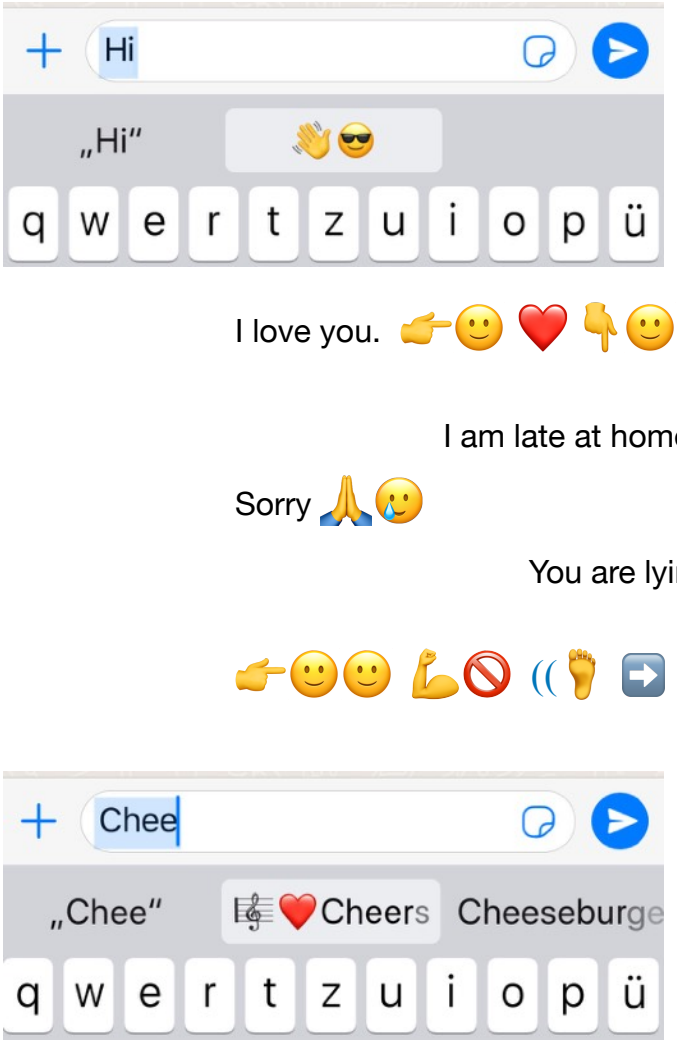


Fig. 10 Emoji-Language Kickoff

Visual Language in HCI and HCHC

Human-Computer Interface
Human-Computer-Human Communication

The Chinese term *culture* is composed of the characters for writing 文 ✍️ and development 化 🐛🦋. In this sense, any change in writing is of considerable intellectual, social and economic importance, and this is all the more true of border-crossing steps toward visual writing. No wonder, then, that even the first modern pictograms, which appeared almost a hundred years ago, triggered controversy. They were criticized above all as an attack on rational thought and the spirit of modernity. Emojis, on the other hand, remain largely exempt from this criticism, but that will change once we come to consider them as pictorial characters in an early stage of visual writing. In the digital age, however, all these concerns and criticisms have a fundamentally new point of reference; the representation of language no longer requires choosing between the use of words and images because everyone can write the *new hieroglyphics* just as easily and effortlessly as letters and together with letters. A mere revival of the historical iconography controversy would therefore amount to atavism. Moreover, there is in fact an ever-increasing need for visual formulations not only in the form of images, videos and graphics, but also in the form and semantics of product design. Whereas industrial design after functionalism considered the "body language" of man-made products to be its specific object (10), immaterial computer design is all about language, including the semantics of interfaces and the typefaces we use to communicate through the computer. Thus, the creation as well as the creative and functional use of visual language is the most specific subject of computer design, as opposed to IT and engineering. In terms of design theory, this means that, until all pictograms, icons and emojis are integrated into a regular visual language, the design of human-computer interfaces, if not interactions, and the realm of human-computer-human communication will lag far behind their potential. However, if we actually continue on the road to visual writing as we have in recent decades, then the conjunction of information and art inherent in visual writing could even lead to something like a *new ornament* (11). Such a more or less poetic visual writing can be customized in and on any material with existing computer-controlled milling machines, laser beams, and 3D printers, and in this way, visual writing could eventually return to its hieroglyphic origins, not only in texts and computer interfaces but also on the surfaces of everyday products and in the facades of architecture – this time at a high tech level and in conjunction with the alphabet.

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