From ❤️ and 😂😜😡, to icons depicting 👍 or 👎, 🍰, 🏠, 🐱 (aww!) and the ☀️☔, emoji are used by millions each day across 📱 and 🖥. With more detail than a dingbat — ✳️ ⭐ ✈️ — and more expression than an emoticon — :-D ;-) :-\ — they enable us to harness the potency of symbols in our everyday communication. In The Story of Emoji, *Gavin Lucas* charts the rise of these pictorial characters which, despite their size, are now ubiquitous in the digital landscape. In an extract from his 👌 🆕 📖, Lucas talks to *Shigetaka Kurita*, the man who in 1️⃣9️⃣9️⃣9️⃣ developed a new language for the 📟 and brought emoji to the 🌍. 👏

The word 'emoji' comes from the Japanese for 'picture' ('e') and 'character' ('moji') and is a term that has, in the last five years, become familiar across the world. In 2011, emoji characters were brought into Apple's iOS5 iPhone and, since then, companies from Samsung to Twitter have created their own sets of symbols for use across messaging, apps and social media. Following this growing trend, ad campaigns and art projects have been conceived around them while, last year, Apple launched a more 'ethnically diverse' range of emoji which included hands and faces in a variety of skin tones. "Emoji are clearly more than just a passing fad," Jeff Blagdon writes in his essay in The Story of Emoji, "they really are conquering the world."

But how did they first emerge? In his book, Lucas looks at the many forerunners of emoji, from typeset ornaments like 'printers' flowers' to 'Smileys', dingbats and emoticons, each of which has played a different role in the evolution of pictorial language. But emoji in fact began life as part of a strategic gamble taken by the Japanese network service provider, NTT Docomo, in the late 1990s.

The company's Pocket Bell pager had been a hit with teenagers in 1995, principally because it contained a heart symbol in its character list, but when Docomo ditched the icon in favour of incorporating more business-focused designs, its young audience left the network. To win them back, in 1999 the network launched a set of 176 emoji characters – each at 12-by-12 pixels, heart included – which would enable users to convey anything they wished. The idea came from Shigetaka Kurita, a researcher at the company's i-mode development team. Here, he explains how manga and Japanese visual culture inspired his pioneering work.

Facing page Twenty-one Apple emoji, three dingbats and three emoticons feature in this text.
Below A heart symbol was included on Docomo's Pocket Bell pagers in 1995 (along with a phone icon meaning 'call me') and its popularity inspired the creation of emoji. Shown here is the heart emoji from the 176-character set that launched on NTT Docomo's i-mode platform in 1999

You were working on the i-mode development team in 1998 when you took a research trip to San Francisco to check out AT&T's Pocket Net. What did you learn from that trip?
When I looked at AT&T's Pocket Net, the thing I was most interested in was how to display content on a cell phone. In 1997 the screens were incredibly small, and also black-and- white, so you weren't able to show images. I went to San Francisco with the ❭
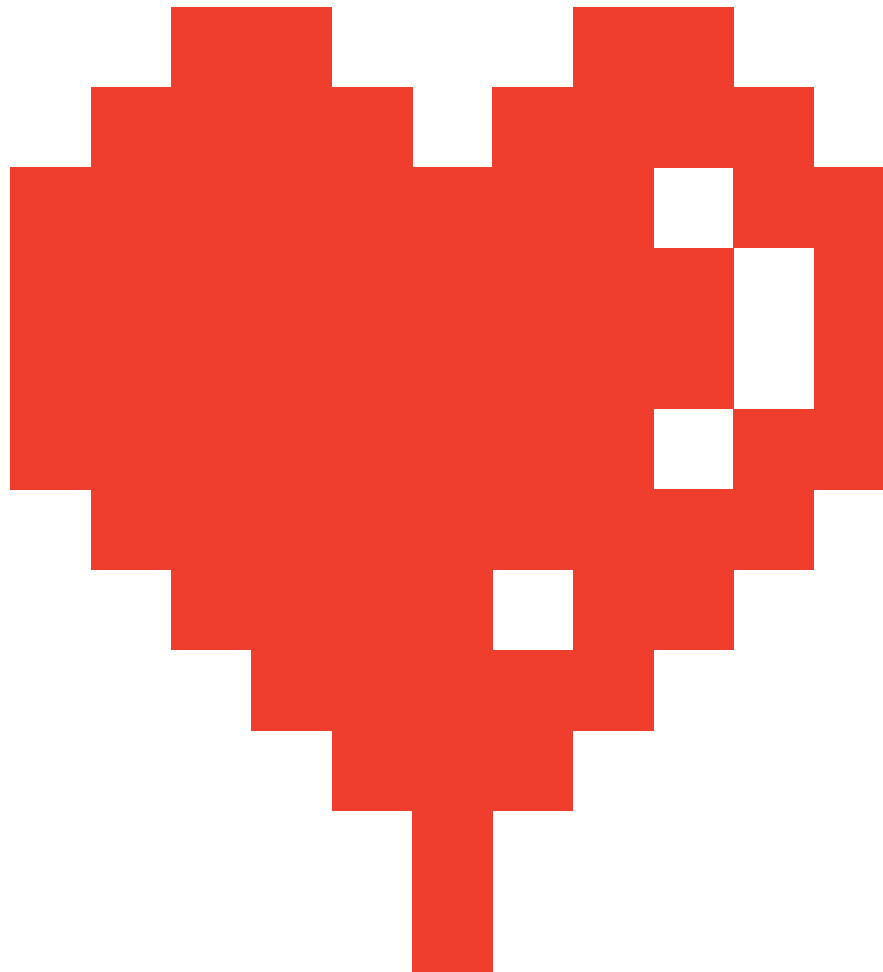
intention of learning how to show information like weather forecasts and news on these terrible displays, and about the kinds of interfaces needed to show it in a way that was easy to understand.

I felt that the way Pocket Net showed text like 'fine' for clear weather and 'rain' for rain wasn't intuitive. Instead, I thought they should use things like ☀️ for clear weather and ☔ for rain, like weather forecasts do on TV. Up until then I had been thinking that emoji would be used for showing emotions, like the heart, but I was made to realise that since we couldn't show full images on these devices, emoji would be necessary for providing rich informational content to users as well.

Also, Pocket Net seemed to be written in a language that was similar to what would become HDML (Handheld Device Markup Language), and

I felt that the interface was unintuitive. Text is the basis for displaying information, so I felt that the system should be like a tree. In that way I had the same idea as Pocket Net, but I recall the way they did it being very difficult to use because the functions for making a selection and advancing, and returning to the previous screen were split between two buttons.

I was a 'game kid' that grew up with Nintendo, so I believed that the easiest interface model to understand and use would be a D-pad and two buttons for 'select' and 'cancel'. You could say that through getting a chance to use Pocket Net's interface we were given an anti-pattern that let us come up with the i-mode interface. As for the OS itself, there wasn't anything in particular that caught my interest.

It really makes me proud that emoji were inspired by manga, pictograms and things from Japan, and now they're being used all around the world
Shigetaka Kurita
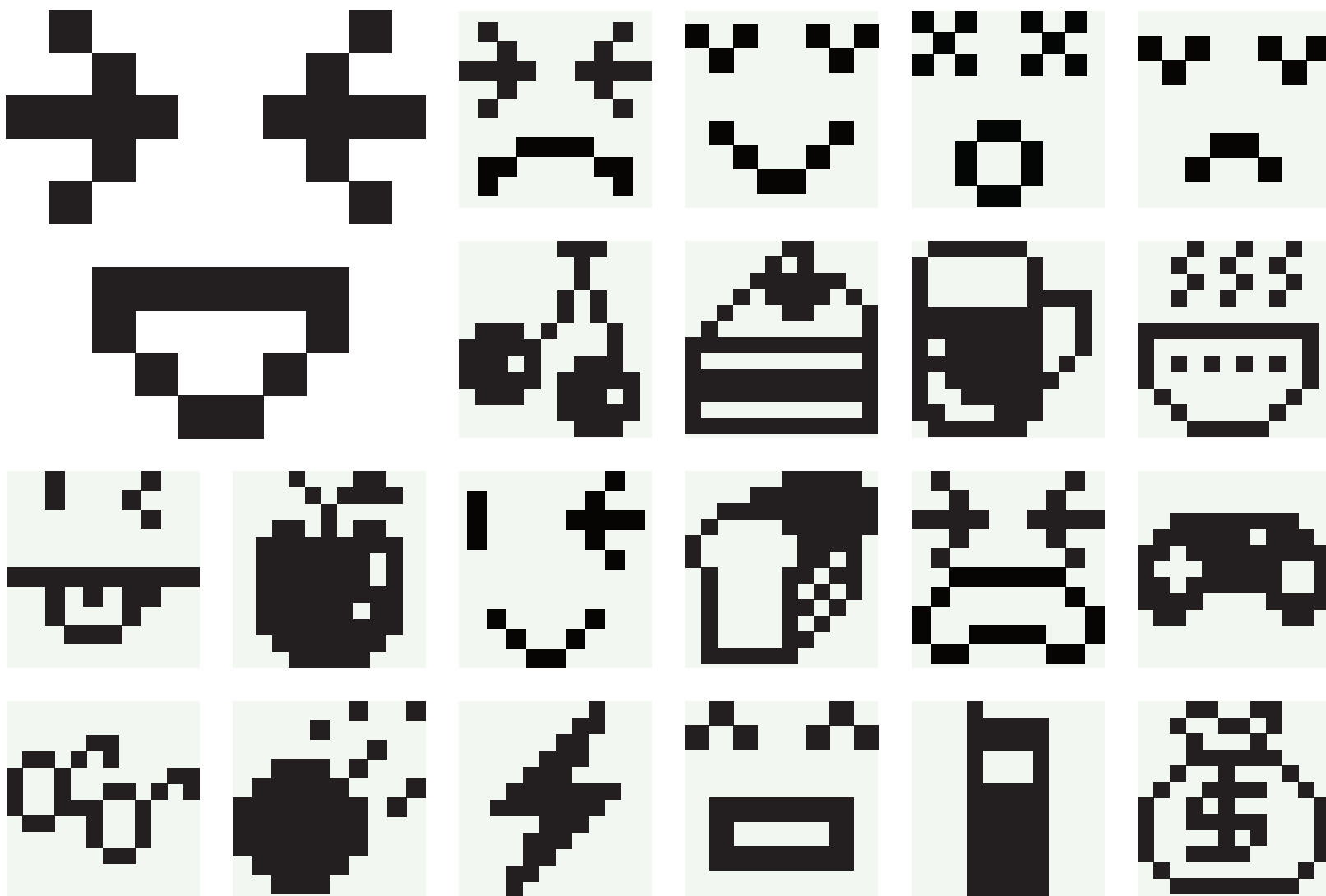
What made the deepest impression on me during the trip was being able to email Japan while I was riding the cable car in San Francisco. Up until that point, 'email' meant sitting down, at home, on the computer. So being able to stand on the cable car and send and receive messages on a mobile device felt really liberating.

The love heart was one of the first symbols to appear on a pager besides type characters. In a way, that was the first emoji.
In 1995 the only two symbols the Pocket Bell was able to display were a phone and a heart. The phone icon was used when you wanted someone to call you back, but the heart was a symbol that you used to express emotion. So I definitely agree that the heart was the first emoji.

**What other visual cues informed the original emoji characters you created for Docomo?**
The two things that served as my inspiration were 'manpu' and pictograms. Manpu are special symbolic expressions used in manga – for example, the droplet-shaped 'sweat' mark used on someone's face to indicate things like anxiety or embarrassment, the wavy 'steam' lines above someone's head for indicating rage, or the light bulb for showing a flash of inspiration.

I used them as a reference because they were simple expressions, as well as having the ability to express a wide range of feelings and situations, and were becoming shared knowledge for a lot of people through manga. Pictograms are a kind of information design used in things like public guide maps. They're something anyone can

understand with a single glance and served as a reference for the information-type emoji we came up with.

In particular, I'm talking about the pictograms that were created for the 1964 Tokyo Olympics to allow visitors from abroad to navigate facilities like washrooms. It really makes me proud that emoji were inspired by manga, pictograms and things from Japan, and now they're being used all around the world. ⟩
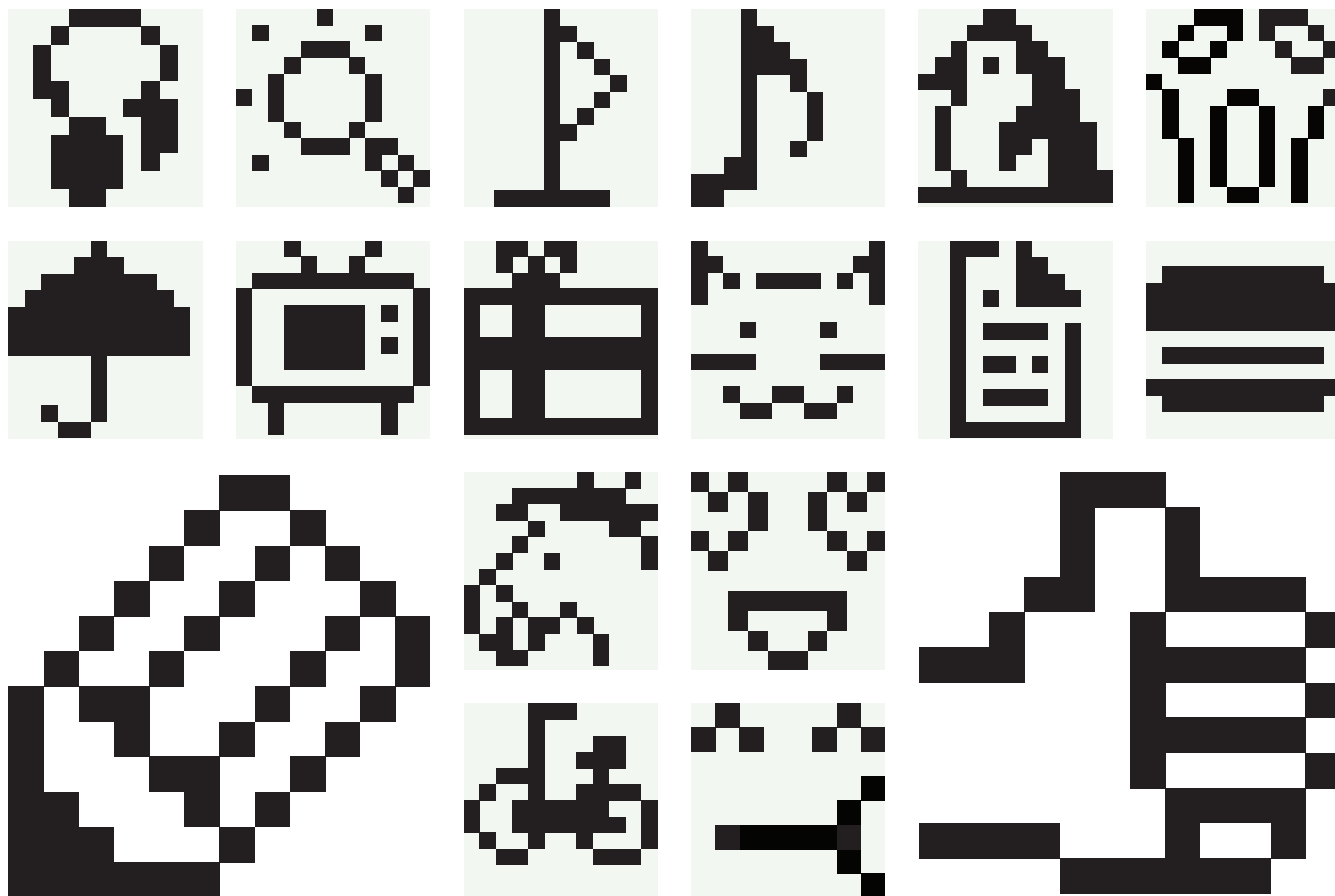
❮ Were there any emoji you created that didn't make it to your final selection?

The poo emoji. When I first designed it at Docomo it was deemed to be 'unsuitable for Docomo from the perspective of public morals and decency', and so initially went unreleased, but because KDDI adopted it, it's now part of the standard set of emoji.

Can you explain the design process behind the emoji created for Docomo?

I presented my idea to develop emoji to the head of planning for i-mode (who was also my boss), Mari Matsunaga, who approved the plan. I took care of the planning, while two others handled the development and negotiation with handset makers, so the emoji development team was made up of three people in total.

It was decided that the first version of i-mode would use 12-by-12-pixel characters, so that was our first constraint. Our staff considered how to actually implement emoji, deciding to use the free region in the Shift JIS character encoding space. A few of the free blocks were reserved for the 'kanji' introduced in the third and fourth standards of Shift JIS, so without a reserved region of our own, we figured we could safely use enough of the free space in Shift JIS for about 200 characters. This became our second constraint.

That left us with the actual work of coming up with 200 emoji and producing the 12-by-12-pixel icons. Our original assumption was that there would be three main uses for emoji: expressing emotions, mainly for messaging (the heart, for example); displaying content (such as the weather or the news);

and general-purpose functions for the platform (such as user ID and password, an emoji meaning 'free' and the i-mode logo). I started by listing, as comprehensively as possible, all the emoji that I could expect to be used on the service, then prioritised them according to their usefulness and how frequently they might be used. Finally, we narrowed what I had down to 200 ideas. As for who did what, it was only me coming up with these ideas and giving them priorities, but Ms Matsunaga, the other team members and I all decided what to include in the final release.

As for the emoji designs, I made a few samples myself, colouring in the squares on sheets of graph paper. Simple ones, like the shining sun, the emoji for rain and the smiley face. There were also a number of emoji where I didn't come up with the

pixel arrangement, but I drew pictures and produced guide documents in order to show the designers what we wanted.

When I think about those ideas now, one that I think I did a good job on is coming up with the golf flag for the 'location information' emoji. This was before Google's pin icon or anything. I also think I did a good job of coming up with the original designs for the emotion emoji. There were always multiple heart emoji right from the beginning, because I recognised the special importance of the heart early on.

The person who came up with the actual pixel designs, the architect Jun Aoki, was introduced to me by Ms Matsunaga. What led me to ask him was the fact that he had designed pictograms for buildings before. The most difficult part of designing the emoji was the lack of expressivity in the 12-by-12

grid's even number of pixels. There was no way to centre an image, since a dot would end up one square to the right or left of the box's centre.

I asked [Jun] to revise the pixel designs that he came up with a few times, brushing them up before the emoji were finally completed. Afterwards, members of the development team produced a specification that we would have handset makers implement, giving birth to emoji.

While this was going on, the legal department was meeting to secure a patent for emoji, but the view at the time was that with a size of 12-by-12 pixels, no matter who drew the subject-matter, it would end up looking essentially the same, so it would be difficult to assert a claim to the designs. Because of that, until the number of pixels in emoji went up, they were free of copyright. I think emoji spread through Japan as a

result, which ended up being a plus. Incidentally, the total time that passed between initial planning and completion was about one month.

How does it make you feel to know that emoji are now used all over the world?

At the time, I wasn't considering emoji being used outside Japan at all. Part of me thinks the reason they caught on might be precisely because they came from Japan, where we're surrounded by kanji – its own kind of pictogram – along with 'hiragana', 'katakana' and the Latin alphabet. Emoji have permeated throughout the world, enabled by the ⟩
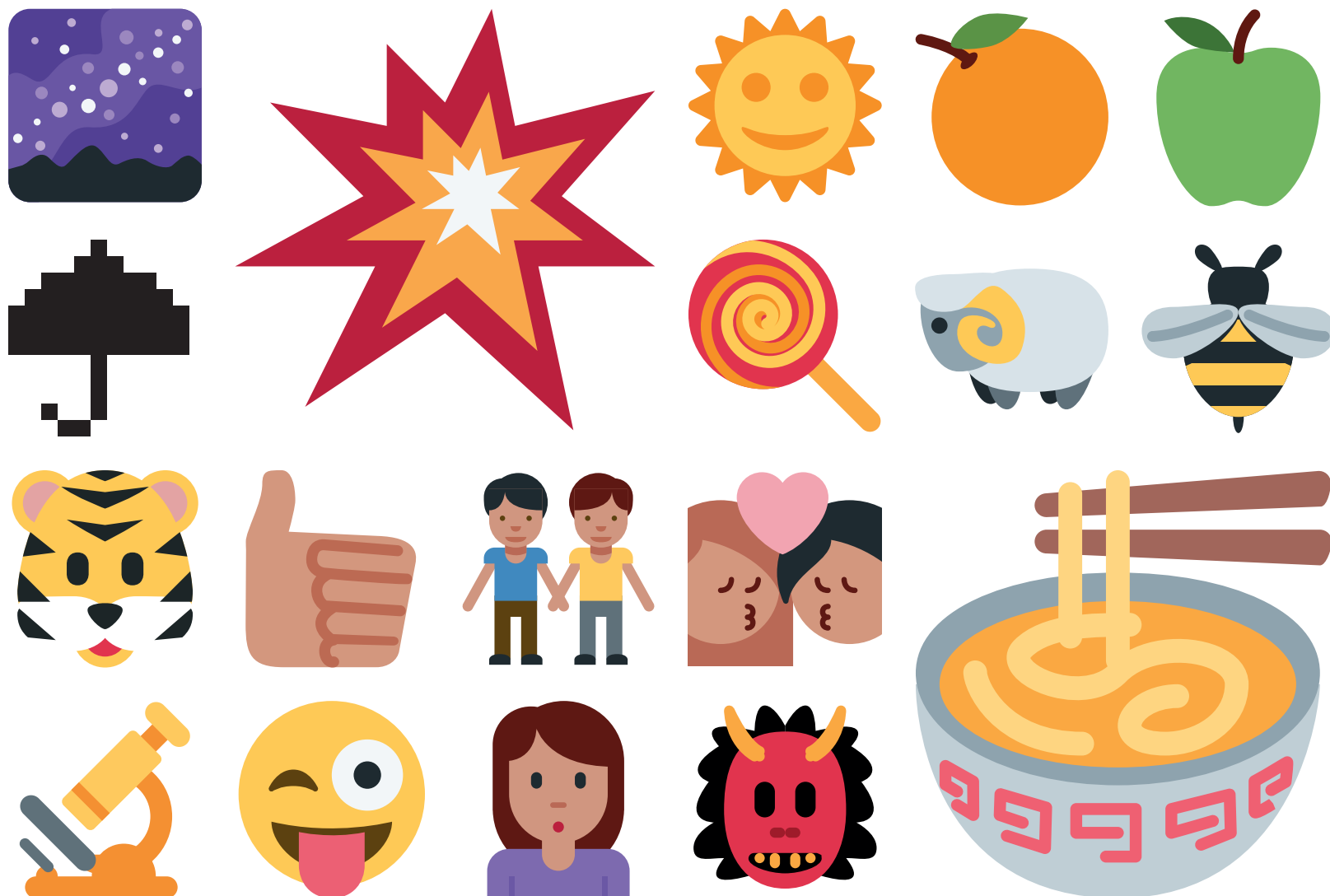
⟨ spread of smartphones and their adoption into Unicode, and they have become an important element of digital text communication. Digital text is different from speaking face-to-face or over the phone, or writing letters even, in that it makes it difficult to express emotional information. And because of confusing input methods and the very nature of texting in a mobile setting, messages tend to be short. Emoji become necessary for making that kind of communication go more smoothly. I consider them the newest form of written language in a world born of digital text communication.

Why did you recently work with Japanese mobile phone brand au by KDDI to create a set of symbols more like your original emoji?
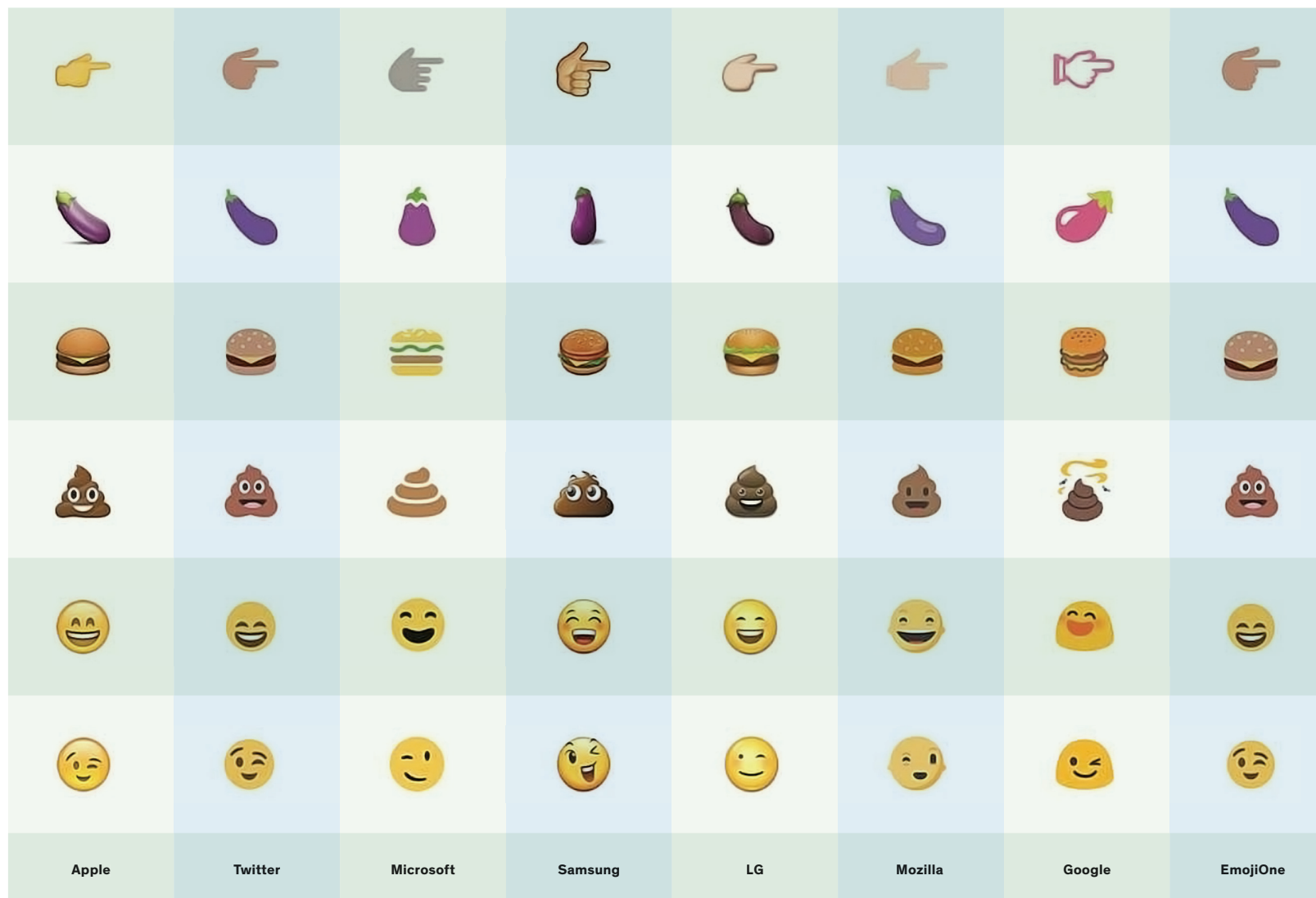In Japan the three major mobile carriers are Docomo, KDDI and Softbank, and each one pretty much adopted its own version of emoji. They each believed that emoji were a killer service for their users, and as a result, the number and design of characters in each of their sets came to differ quite a lot. When emoji were adopted into Unicode in 2010, the Unicode Consortium took a comprehensive approach and added all three carriers' emoji. Because of this, it was able to maintain compatibility between each company's emoji, but only for those characters that they all had in common, and because each carrier had a different number of characters it meant that there wasn't complete interoperability for everything.

Because of that, Docomo and KDDI decided to consolidate their emoji in 2012. They normalised not only the types of characters, but their designs as well, deciding to go with Docomo-style emoji across the board. For that reason, they asked me to oversee a new uniform design for the project, since I had produced the original designs for Docomo.
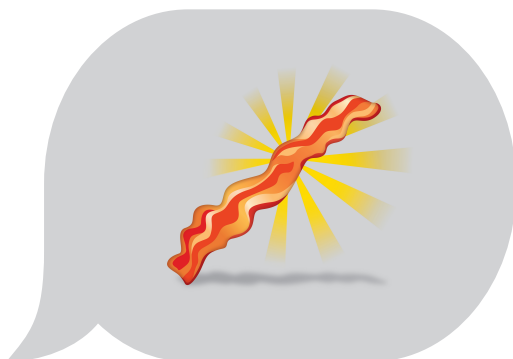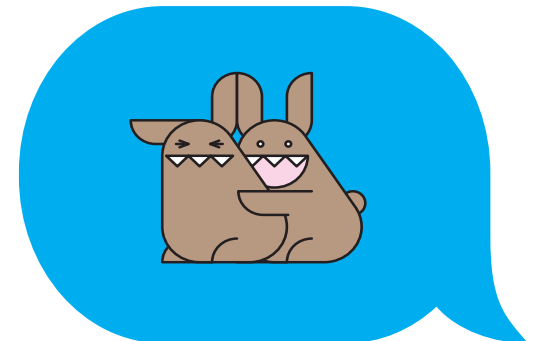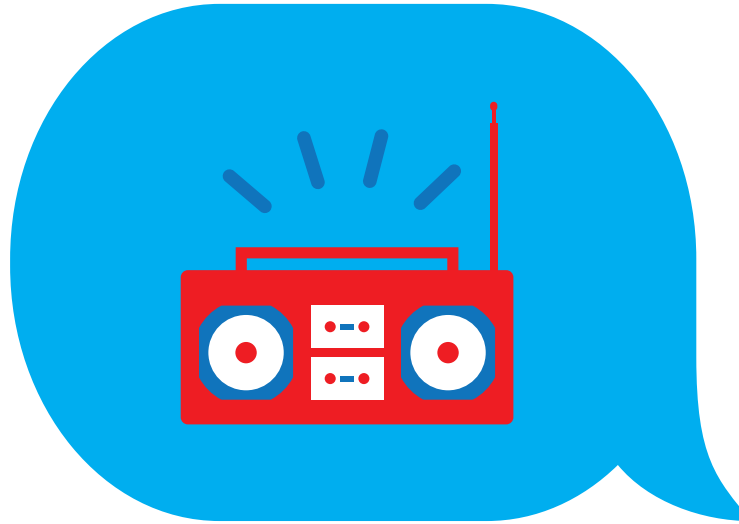
Are emoji here to stay?
Emoji are a communication tool, so they will likely continue to change as a result of their surrounding environment. Of course, I don't think that emoji will ever disappear. 🔲

| Apple | Twitter | Microsoft | Samsung | LG | Mozilla | Google | EmojiOne |

If you could create a new emoji, what would it be?

The Story of Emoji also includes a series of new emoji created by various illustrators and designers – each is also available to buy as a button badge via Stereohype. Shown here are, clockwise from top left: Oh Shit by Noma Bar; Ghetto Blaster by Crispin Finn; Just Kiddin by Friso Blankevoort; Humping Bunnies by TwoPoints; John and Yoko by Serge Seidlitz; Hipster Coffee by Hey Studio; Bacon by Liza Nelson; Typo by Peskimo; and Mind Blown by FL@33 (who also designed the book). *stereohype.com/313-emoji-series*