

Missing fingers

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Cave paintings are a type of parietal art, found on the wall or ceilings of caves throughout the world. It has a long history since in some places, like the Gabammung cave of northern Australia, there are paintings more than 28,000 years of age whereas other ones were made less than a century ago (Gunn et al., 2017).

Hands stencils and handprints are a characteristic component of cave art. In fact, the oldest known cave painting is a red hand stencil in Maltravieso cave, Cáceres, Spain. Uranium-thorium method dated it to be older than 64,800 years, suggesting it was made by a Neanderthal, since that date predated the arrival of *Homo sapiens* to the Iberian Peninsula by at least 20,000 years (Hoffman et al., 2018). However, this chronology is disputed by Slimak et al. (2018), who provide evidence supporting an age of 47,000 years.

To create a positive hand image, an individual would have dipped his/her hand in pigment and then pressed it on the cave wall. To make a negative hand image or hand stencil, the individual would place a hand on the wall and blow pigment at it, probably through a cane or pipe. These hand stencils form a characteristic image of a roughly round area of solid pigment with the uncolored shape of the hand in the center, which may then be decorated with lines or dashes. Hand stencils and handprints are found in similar forms and by the hundreds in Europe, Eastern Asia, South America and Australia.

Some hand images in cave art show a finger or more wholly or partly missing. Their proportion is astoundingly high: of the 231 hand images in Gargas cave (Aventignan, France), 114 have at least one finger segment missing, whereas in Cosquer cave (Calanque de Morgiou, France), from 49 hand images, 28 have missing finger segments (Marshall, 2018). Lack of finger segments in

handprints and hand stencils is not limited to French Paleolithic painters: at Maltravieso in western Spain, 61 of 71 hand images show missing digits. Many caves have been occupied in different periods, but it is thought that all these images with missing phalanges date back to the Gravettian (ca. 22-27 Ka BP) (Jaubert 2008), and, drawing on the size of the images, these individuals are thought to have included men, women, adolescents and infants (Barrière, 1976).

A number of explanations have been given to these particular images. One possibility is that the people's hands were intact and they folded fingers when making the pictures, perhaps to hold a tool, as a simple counting system, as signatures or as a sign language. Proponents of this latter hypothesis have argued that the incomplete hand images resemble hand signals used by some San groups to communicate silently while hunting (Leroi-Gourhan, 1967). However, there are impressions of hands with stumps of fingers in hardened mud at Gargas cave (Barrière, 1976), suggesting that they are real mutilations. A second possibility is that people accidentally lost fingers to frostbite, hunting misfortunes, flint-knapping accidents, infections or other diseases. Raynaud's disease, for example, involves a narrowing of the arteries that reduces blood flow to the fingers and can, in severe cases, require amputation of the affected parts. Another example is self-mutilating behavior affecting the fingers after severe meningococcal infection (Dinkar et al., 2016) or Lesch-Nyhan Syndrome (Jathar et al., 2016). A third possibility is that the loss was real but on purpose, not accidental or as result of a disease. Such a dramatic self-mutilation sounds odd but a recent ethnographic study found that 121 human societies throughout the world practice or practiced finger amputation (McCauley et al., 2018). Other authors have discussed whether these ethnographic practices are similar to cave art because of the distinctive pattern seen in the Palaeolithic hand stencils, namely, a sequential shortening of fifth, fourth and

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third fingers, with the thumb spared, a pattern not observed in any of the ethnographic cases but typical of frostbite damages (Marshall, 2018).

McCauley's research group classified the amputation practices in ten different groups, depending on whether there were voluntary practices, i.e. assented by the participant, or involuntary, forced on the participant. Voluntary acts include removing finger segments to appeal to a deity for assistance (sacrifice), to explicit extreme grief (mourning), to mark community membership (identity), to look for a healing (medical), and to signal marital status (marriage). Two involuntary practices were also identified: amputation to punish a bad deed (punishment), and amputation to produce a magical object or worshiping device (veneration). Among the post-mortem practices, there is one that was carried out by close relatives: amputation to appeal to a deity for assistance (offering); and two that were carried out by members of another group. In one, phalanges were removed and kept to mark victory over a deceased enemy (trophy). In the other, phalanges were removed and kept to assist with worship or magic (talisman).

There are other aspects where ethnographic samples do not match with cave paintings. Most of the first group involve the removal of a little finger, a smaller sacrifice if we realize that the hand stencils in Gargas cave have up to four fingers missing, something that would put their normal performance in jeopardy.

When we consider whether any actual group practice of self-amputation of fingers, there is, probably due to popular films such as *Street Mobster* (directed by Kinji Fukasaku in 1972), *The Yakuza* (directed by Sydney Pollack in 1974), *Black Rain* (directed by Ridley Scott in 1989) and *The Outsider* (directed by Martin Zandvliet in 2018), a common answer: Japanese Mafia or Yakuza.

Yubitsume, translated as finger-shortening, the ritualistic self-amputation of proximal digits by the Yakuza, is performed on living subjects, but it is also a punishment to atone for a mistake or to show sincere apology and remorse to another. It affects 45 percent of modern Yakuza members and it does not fit well in McCauley's classification, since it is frequently voluntary, but it tries to avoid a worse punishment, demonstrate loyalty and show repentance (Bosmia et al., 2014). Of course, it is difficult to ascertain what recent ethnographic practices were similar to the Upper Palaeolithic people, but some authors exclude some of them, arguing that the most common objectives were mourning and/or sacrifice (McCauley et al., 2018).

There is another difference concerning cave artists and Yakuza. Yakuza seems to be an exclusively male society where women have remained outside the sphere of criminal activity in this organized structure, although a few exceptions have been identified, and Yakuza wives remained in the passive emotionally and financially supportive role (Alkernalde, 2014). However, Dean Snow (2013) considers that handprints and hand stencils are a special case of implicit bias, since the traditional

assumption is that the Upper Paleolithic parietal art of southwestern Europe was produced by adult or subadult males, although this had not been proved. In a sample of 32 hand prints in caves he concluded, based on ring and index finger ratio, that persons who made these hand stencils were predominantly (75%) females (Snow, 2013).

In addition to the above-mentioned films, finger mutilation is found in many other components of pop culture including Roald Dahl's short story *Man from the South* (1948), William Gibson's 1984 novel *Neuromancer*, Like a Dragon, Japanese video-games series, TV show *CSI: Miami* (Season 8, Episode 13, "Die By the Sword"), and even in the recent TV series *Game of Thrones* (character Davos Seaworth).

Yubitsume is rarely performed nowadays. The desire of the Yakuza to be less conspicuous may have led to the decline of this practice, and the main forms of punishment among these criminals presently are financial penalties and expulsion from the organization (Bosmia et al., 2014). In addition, reports from the Japanese police indicate that some members use anesthetics to perform yubitsume or go to a hospital to have the severed portion reattached after showing it to their boss. Even Yakuza soldiers are softer than before!

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