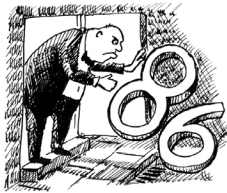
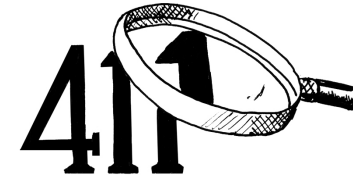


This otherwise unremarkable number took on enormous importance for Sweden during the Second World War. Seventy-seven, written *sjuttiosju* in Swedish, is extremely difficult to pronounce in that language, and it was the pronunciation – or mispronunciation – of it that helped guards at the border of neutral Sweden to distinguish between native Swedes and others from Germany or occupied Norway.



This expression, dating back to jazz-age America, and meaning to ‘dismiss’ or ‘get rid of’, has its roots in American restaurants and diners, and originally referred either to being out of stock of an item on the menu, or to ejecting a troublesome client. As with ‘23, skidoo’ (see p.25), numerous largely unsupported theories have been offered. Supposedly, section 86 of the New York State liquor code defined the circumstances under which a patron could be ejected (i.e. ‘86ed’), but this seems unlikely, given the origins of the expression. It could also be rhyming slang for ‘nix’, but if so it would be an unusual instance of American rhyming slang.

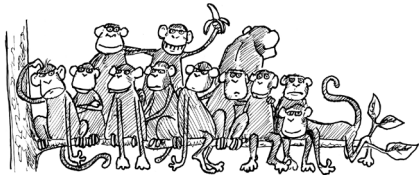
This number refers to section 187 of the California Penal Code, which defines the criminal act of homicide, and ‘187’ has become an American slang term for murder, particularly in major cities. The term appears to have spread to gangs across America, as well as to more general usage, through West Coast ‘gangsta rap’ in the 1990s, with a number of songs making reference to 187s. A 1997 film, *One Eight Seven*, about gang violence in an LA high school, further popularized the term. The term ‘419 scam’ (see p.62) is derived in a similar way.



The telephone number used for directory assistance in most parts of the US and Canada, ‘411’ is American slang for essential information. It’s pronounced – like 911 – as three separate digits, and always used as a noun, similar to ‘the lowdown’ – one would get the ‘411’ on someone or something rather than ‘411ing’ it.

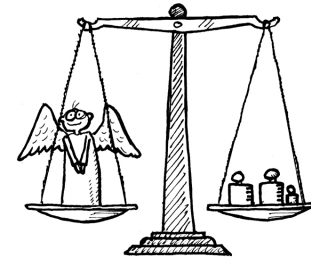
## UP TO 11

A classic line in the seminal film *This Is Spinal Tap* (1985), in a scene where guitarist Nigel Tufnel (Christopher Guest) is showing off his guitars and amplifiers. Tufnel demonstrates a special Marshall amplifier with an extra volume setting, in case he needs to go 'one louder'. The phrase 'up to eleven' has come to refer simply to taking things to slightly absurd extremes, and real amplifiers with volume dials going 'up to 11' have been produced.



## 12 MONKEYS

A superbly innovative science fiction/mystery film, directed by former Monty Python member, Terry Gilliam, in 1995, *12 Monkeys* stars Bruce Willis as an inmate of a dystopian prison in a post-apocalyptic future, who is sent back in time (with the aid of an unusually imperfect time-travel process) to stop the disaster. Back in the 1990s, he meets a mental patient (Brad Pitt), whose involvement with the environmentalist extremist group the Army of the Twelve Monkeys seems to be the answer. The film is filled with symbolism and uncertainty, but Gilliam's reason for choosing 12 is unclear.



## 21 GRAMS

A 2003 film directed by Alejandro González Iñárritu and starring Benicio del Toro, Naomi Watts and Sean Penn. The film, which follows interweaving plotlines around a fatal car accident, is named for the supposed weight of the human soul (about 0.75 oz), a figure that has more weight as a religious and cultural idea than it does as any sort of scientific datum.

The number is derived from a series of experiments performed by Dr Duncan MacDougall in Massachusetts in 1907, which aimed to measure a loss of weight at the moment of death, and thus 'prove' that the soul existed and had physical mass. Unsurprisingly, MacDougall's experiments were deeply unscientific in their methods and ultimately inconclusive. Not only did he record a fairly wide range of weights, some of which increased over time, but his sample size (see p.145) only included six patients. Some subjects in other experiments *gained* a tiny amount of weight at death. Furthermore, such small losses of weight at death can easily be accounted for by the lungs emptying, by the evaporation of fluids, and by simple experimental error.



## WHY BUSES COME IN THREES

The hugely irritating tendency of buses to lag behind advertised timetables, before arriving in a seething glut half an hour too late, is a well-documented phenomenon of public transport known as ‘bunching’. Bus companies have invested a lot of money and effort in attempts to alleviate it, and advances in communications technology mean that the worst bunching can now be more easily spotted.

The problem, though, is essentially mathematical in nature, and difficult to eradicate completely. Furthermore, unlike on railways and the underground, where all trains are monitored and can be held in stations to even out the gaps between them, buses have to work within a much larger organic system of traffic, where they may be forced to keep moving.

### Let me explain

On a given bus route in a major city, the buses leave the depot at fixed intervals a few minutes apart. As the buses start at 8.15 in the morning, a significant number of morning commuters have turned up at most or all of the stops on the

route. The first bus stops at all of them, picking up a large number of morning commuters, which causes it to spend a fairly long time at each stop.

The next bus, departing at 8.25, also stops at every bus stop, but this time only picks up the smaller number of commuters who’ve turned up in the last 10 minutes, thereby spending less time at each stop, while the first bus, only a few stops ahead, is still picking up lots of people. This second bus begins to catch up with the first one. The third bus gets even closer as the number of commuters waiting on the route decreases further, and so the process continues. After rush hour, it tends to even out a little, though, as there are far fewer people, and buses can be spaced out without making people late.

But because the regularity of buses is not matched by the comparatively unpredictable patterns of passengers turning up at the stops, bunching can be brought on by an unusually large group of people arriving at a single bus stop at any given time, and thus forcing one bus to stop for quite a while as others close the distance to it.

As the bunching process is repeated over the whole day, especially when combined with traffic lights and other road delays which stop the buses in front and allow the ones behind to catch up, buses get bunched up on their route, and by the end of the route large gaps may appear in the bus service, coming between groups of several buses arriving all at once.



## CHINESE LUCKY (AND UNLUCKY) NUMBERS

The nature of Chinese languages, with many very similar-sounding words, leads to most digits being considered lucky or unlucky, usually because of homophony (words sounding similar to other words when spoken) in the same way as text speak uses 2 for 'to', 4 for 'for', etc. This is a non-exhaustive list of them (which vary significantly across China's 1.3 billion inhabitants and numerous dialects).

1

Much as in the West, the number 1 can be interpreted as representing either unity or loneliness.

2

The number 2 sounds like the word 'easy' in the Cantonese language spoken in much of China, but the idea of a pair has wide-ranging importance. Doubling – 'double happiness' or 'double prosperity' – is a common way of intensifying good wishes.

3

Homophonous with the word 'life', the number 3 is a rather auspicious number, especially when combined with other lucky numbers.

4

An unlucky number across the Far East, in much the same way as 13 (see p.100) is in Western cultures. Four, and by extension all numbers containing the digit, is associated with death because the two words sound similar in most dialects. Many Chinese-made products, including Nokia phones and Canon cameras, skip from 3 to 5 in model numbers. In some areas, however, it sounds closer to the word 'task' and is considered lucky for this reason.

5

The number 5 is associated with the five elements (fire, earth, air, water and the aether), and also, in Mandarin, with the word meaning 'I' or 'me'. In Cantonese, however, 5 sounds closer to the word 'not'.

6

While 666 is still the subject of Satanic superstition in the West (see Number of the Beast, p.76), it's routinely displayed in Chinese shop windows. The number 6 sounds like the word for 'smooth' or 'easy', and repeating it three times maximizes the effect.

## THE FIBONACCI SEQUENCE

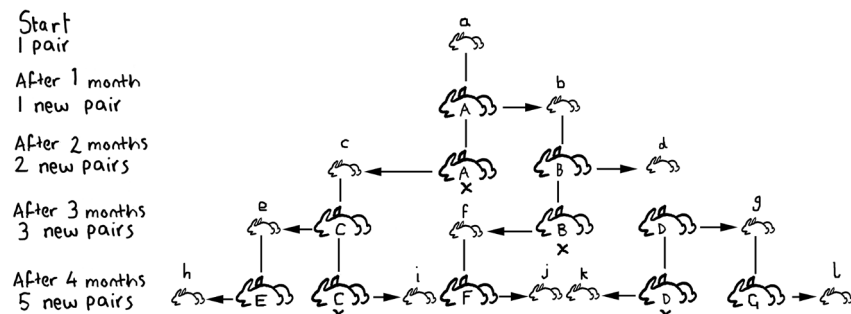
The Fibonacci sequence is a sequence of numbers, defined by the fact that each term is the sum of the previous two terms. Therefore the first fifteen terms are:

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377

The sequence is named after Leonardo of Pisa, also known as Fibonacci (c.1170–1240), an Italian mathematician who was a major figure in spreading Arabic numerals to the rest of the world (see *The Evolution of Zero*, p.130) in his book *Liber Abaci* (the Book of Calculation, published in 1202). *Liber Abaci* also introduced the Fibonacci sequence as a solution to the following problem:

A pair of rabbits is kept in an enclosure, supplied with food and water. After a month, this pair mates and produces a new pair of rabbits. Each new pair of rabbits begins producing offspring after one month, and produces exactly two every month after that. How many pairs of rabbits can be produced in each month over the course of a year, assuming each pair dies after producing two pairs of offspring?

The result is the Fibonacci sequence.



The Fibonacci sequence has attracted a great deal of interest because it crops up frequently in nature – even outside monogamous rabbits, which actually occur rather rarely. The Fibonacci sequence also appears in sunflowers, in the spiral pattern of the seeds in the centre (which usually grow in formations of 55 clockwise and 89 anticlockwise spirals of seeds – both Fibonacci numbers). A similar pattern exists in other flowers, pine cones and pineapple fruitlets. It gives the most efficient even distribution of seeds in the space available.

