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Bill Bryson: the history of the toilet

In the latest exclusive extract from his new book on the origins of modern life, the acclaimed author kicks off with a look at the tortuous journey from cesspit to cistern

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A vintage toilet cistern chain Photograph: Alamy

The following correction was printed in the Guardian's Corrections and clarifications column, Tuesday 25 May 2010

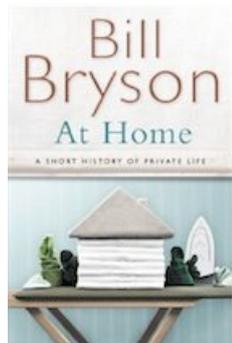
At Home: A Short History of Private Life

by Bill Bryson

544pp,

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Readers challenged a book extract of the description of garderobe as "a word now extinct", noting that it is alive and well in Dutch and French. To clarify, the intention was to say it was extinct in English usage as a word for privy

The toilet

Perhaps no word in English has undergone more transformations in its lifetime than "toilet". Originally, in about 1540, it was a kind of cloth, a diminutive form of "toile", a

word still used to describe a type of linen.

Then it became a cloth for use on dressing tables. Then it became the items on the dressing table (whence "toilettries"). Then it became the dressing table itself, then the act of dressing, then the act of receiving visitors while dressing, then the dressing room itself, then any kind of private room near a bedroom, then a room used lavatorially, and finally the lavatory itself. Which explains why "toilet water" in English can describe something you would gladly daub on your face or, simultaneously, "water in a toilet".

Garderobe, a word now extinct, went through a similar but slightly more compacted transformation. A combination of "guard" and "robe", it first signified a storeroom, then any private room, then (briefly) a bedchamber and finally a privy. However, the last thing privies often were was private. The Romans were particularly attached to the combining of evacuation and conversation. Their public latrines generally had 20 seats or more in intimate proximity, and people used them as unselfconsciously as modern people ride a bus.

"Water closet" dates from 1755 and originally signified the place where royal enemas were administered. The French from 1770 called an indoor toilet "*un lieu à l'anglaise*" or "an English place", which would seem a potential explanation for where the English term "loo" comes from. The Reverend Henry Moule, a vicar in Dorset, invented the earth closet in the mid-19th century. The earth closet was essentially a commode that incorporated a storage tank filled with dry earth that, with the pull of a handle, released a measured dose of soil into the receptacle, masking the smell and sight of one's leavings.

Most sewage still went into cesspits, but these were commonly neglected and the contents often seeped into neighbouring water supplies. In the worst cases they overflowed. The people who cleaned cesspits were known as nightsoil men, and if there has ever been a less enviable way to make a living I believe it has yet to be described. They worked in teams of three or four. One man – the most junior, we may assume – was lowered into the pit itself to scoop waste into buckets. A second stood by the pit to raise and lower the buckets, and the third and fourth carried the buckets to a waiting cart. Workers ran the risk of asphyxiation and even of explosions since they worked by the light of a lantern in powerfully gaseous environments.

In St Giles, the worst of London's rookeries – scene of Hogarth's Gin Lane – 54,000 people were crowded into just a few streets. Such masses of humanity naturally produced enormous volumes of waste – far more than any system of cesspits could cope with. In one report, an inspector recorded visiting two houses in St Giles where the cellars were filled with human waste to a depth of three feet. The river was a perpetual "flood of liquid manure", as one observer put it. The streams that fed into the Thames were often even worse than the Thames itself. The river Fleet was in 1831 "almost motionless with solidifying filth".

Into this morass came something that proved, unexpectedly, to be a disaster: the flush toilet. Flush toilets of a type had been around for some time. The very first was built by John Harington, godson to Queen Elizabeth I. When Harington demonstrated his invention to her in 1597, she expressed great delight and had it immediately installed in Richmond Palace. But it was a novelty well ahead of its time and almost 200 years passed before Joseph Bramah, a cabinet maker and locksmith, patented the first modern flush toilet in 1778. It caught on in a modest way. Many others followed. But early toilets often didn't work well. Sometimes they backfired, filling the room with even more of what the horrified owner had very much hoped to be rid of. Until the development of the U-bend and water trap – that little reservoir of water that returns to the bottom of the bowl after each flush – every toilet bowl acted as a conduit to the

smells of cesspit and sewer. The backwaft of odours, particularly in hot weather, could be unbearable.

This problem was resolved by one of the great and surely most extraordinarily appropriate names in history, that of Thomas Crapper (1837–1910), who was born into a poor family in Yorkshire and reputedly walked to London at the age of 11. There he became an apprentice plumber in Chelsea. Crapper invented the classic and still familiar toilet with an elevated cistern activated by the pull of a chain. Called the Marlboro Silent Water Waste Preventer, it was clean, leak-proof, odour-free and wonderfully reliable, and their manufacture made Crapper very rich and so famous that it is often assumed that he gave his name to the slang term "crap" and its many derivatives.

In fact, "crap" in the lavatorial sense is very ancient and "crapper" for a toilet is an Americanism not recorded by the Oxford English Dictionary before 1922. Crapper's name, it seems, was just a happy accident.

The stairs

The most dangerous part of the house – in fact, one of the most hazardous environments anywhere – is the stairs. No one knows exactly how dangerous the stairs are because records are curiously deficient. In Britain, fairly scrupulous stair-fall figures were kept until 2002, but then the Department for Trade and Industry decided that keeping track of these things was an extravagance it could no longer afford. The last set of figures indicated that a rather whopping 306,166 Britons were injured seriously enough in stair falls to require medical attention, so it is clearly more than a trifling matter.

John A Templer of MIT, author of the definitive (and, it must be said, almost only) scholarly text on the subject, *The Staircase: Studies of Hazards, Falls, and Safer Design*, suggests that all fall-injury figures are probably severely underestimated anyway. Even on the most conservative calculations, however, stairs rank as the second most common cause of accidental death, well behind car accidents but far ahead of drownings, burns and other similarly grim misfortunes.

Everybody trips on stairs at some time or other. It has been calculated that you are likely to miss a step once in every 2,222 occasions you use stairs, suffer a minor accident once in every 63,000 uses, a painful accident once in every 734,000, and need hospital attention once every 3,616,667 uses.

Eighty-four per cent of people who die in stair falls at home are 65 or older. This is not so much because elderly people are more careless on stairs, but because they don't get up so well afterwards. Children, happily, only very rarely die in falls on stairs, though households with young children in them have by far the highest rates of injuries, partly because of high levels of stair usage and partly because of the startling things children leave on steps. People in good shape fall more often than people in bad shape, largely because they do a lot more bounding and don't descend as carefully as the tubby or infirm.

When we fall on stairs, we tend to blame ourselves. In fact, design substantially influences the likelihood of whether you will fall, and how hurt you will feel when you have stopped bouncing. Poor lighting, absence of handrails, confusing patterns on the treads, risers that are unusually high or low, treads that are unusually wide or narrow and landings that interrupt the rhythm of ascent or descent are the principal design faults that lead to accidents.

The two times to take particular care on staircases are at the beginning and end of a

journey. It is then that we seem to be most inclined to be distracted. As many as one-third of all stair accidents occur on the first or last step, and two-thirds occur on the first or last three steps. The most dangerous circumstance of all is having a single step in an unexpected place. Nearly as dangerous are stairs with four or fewer risers. They seem to inspire overconfidence. Not surprisingly, going downstairs is much more dangerous than going up. Over 90% of injuries occur during descent.

No one knows where stairs originated or when, even roughly. The earliest, however, may not have been designed to convey people to an upper storey, as you might expect, but rather downwards, into mines. In 2004, the most ancient wooden staircase yet found, dating from about 3,000 years ago, was discovered 100 metres underground in a Bronze Age salt mine at Hallstatt in Austria. It was possibly the first environment in which an ability to ascend and descend by foot alone (as opposed to a ladder, where hands are needed, too) was a positive and necessary advantage since it would leave both arms free to carry heavy loads.

In passing, one linguistic curiosity is worth noting. As nouns, "upstairs" and "downstairs" are surprisingly recent additions to the language. "Upstairs" isn't recorded in English until 1842 (in a novel called *Handy Andy* by one Samuel Lover), and "downstairs" is first seen the following year in a letter written by Jane Carlyle. In both cases, the context makes clear that the words were already in existence – Jane Carlyle was no coiner of terms – but no earlier written records have yet been found. The upshot is that for at least three centuries people lived on multiple floors, yet had no convenient way of expressing it.

The lawn

Before the 19th century, lawns in any meaningful sense were the preserve almost exclusively of owners of stately homes and institutions with large grounds because of the cost of maintaining them.

For those who wished to have a greensward of grass, there were only two options. The first was to keep a flock of sheep. That was the option chosen for Central Park in New York, which until the end of the 19th century was home to a roaming flock of 200. The other option was to employ a dedicated team of people who would spend the whole of every growing season scything, gathering and carting away grass. Even the most carefully scythed lawn was, by modern standards, rough and clumpy, and a sheep-grazed lawn was even worse.

The lawnmower was the invention of one Edwin Beard Budding, a foreman in a cloth factory in Stroud, Gloucestershire, who in 1830, while staring at a machine used to trim cloth, hit on the idea of turning the cutting mechanism on its side, putting it into a smaller contraption with wheels and a handle and using it to cut grass. By the last quarter of the 19th century, the lawnmower was comfortably established as a part of gardening life. On even the most modest properties, a good, well-cut lawn became the ideal. For one thing, it was a way of announcing to the world that the householder was prosperous enough that he didn't need to use the space to grow vegetables for his dinner table.

Today for many people gardening is about lawns and almost nothing else. Grass on domestic lawns wants to do what wild grasses do in nature – namely, grow to a height of about two feet, flower, turn brown and die. To keep it short and green and continuously growing means manipulating it fairly brutally and pouring a lot of stuff on to it. In the western US about 60% of all the water that comes out of taps is sprinkled on lawns. Worse still are the amounts of herbicides and pesticides – 32m kg of it a year – that are soaked into lawns. It is a deeply ironic fact that for most of us keeping a handsome lawn is about the least green thing we do.