A Brief History of the Toothbrush



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Modern societies teach their members about health and cleanliness. But people used to brush their teeth even before that. Learn how the 'toothbrush tree' got its name, and what the Prophet Muhammad has to do with oral hygiene.

He was fifty years old and had never seen a toothbrush before. He lived in a mountain village in Montenegro. His name was Popović. He watched two tourists brushing their teeth. The tourists aroused his curiosity. When they left, they gave Popović one of their brushes. This was to have dreadful consequences for him.

In October 1933, a correspondent for the New York Times reported on the trial in the Popović murder case. The report revealed a slight air of arrogance towards Europeans who were 'behind the times' when it came to oral hygiene. This was unjustified, as the toothbrush only became an everyday item in the USA in the 1930s. As late as 1927, only one in seven Americans owned one. And of those, only one in five even knew how to use it properly! There were tooth-brushing competitions in New York. Schoolchildren competed against one another with the aim of demonstrating the best brushing technique. For a long time therefore, oral care was by no means a given, and the American press repeatedly reported on people who had accidentally swallowed their toothbrush whilst brushing their teeth and had to undergo surgery to have it removed.

Dramatic consequences

Popović was not as clumsy as these Americans. He used the gift every day, always at the water pump in his garden. He certainly expected positive results for his oral health, and he was right. But he misjudged the reaction of those around him. Rumour had it that strange things were happening in the area. The other villagers thought this must have something to do with the devil. And what else could have summoned Satan's presence, if not this daily ritual of sticking a wooden stick in one's mouth? Thirteen men sought out Popović in his little cottage one night and beat him to death. Ever since the world and Montenegro had existed, the Montenegrins had had good teeth and no reason to clean them. To change this was the work of the devil and had to be stopped. That is what the mayor of the municipality said in court; he too was one of the men who had ganged up to beat Popović to death.

The dental prophet

Since then, fanatical religious violence has not gone away. And given the horror it causes, it seems rather out of touch to pause whilst brushing one's teeth, mouth full of foam, to look at the toothbrush in one's hand and ponder its history. But perhaps it takes one's mind off other things.

In any case, as one ponders, one finds oneself thinking of a dental hygiene expert named Muhammad, around the year 600 AD. Yes, that very same Muhammad who one must refrain from caricaturing if one wishes to show up alive – or at least in good health – in front of the bathroom mirror again tomorrow. The Prophet recommended



On the left: Toothbrushes with horsehair bristles, London, England, 1870–1920. Credit: Science Museum, London, CC BY.

cleaning the mouth with a twig called a ‘siwak’. Derived from ancient Indian customs, the technique had become widespread in the Arab world at that time.
From an environmental perspective, the use of the siwak makes total sense. The ends of the twigs were chewed or split open. The wood fibres, which then splayed apart, were used to clean the teeth and the spaces between them. The wood of Salvadora persica, known today as the toothbrush tree, was particularly suitable.
It does, in fact, contain a certain amount of fluoride. According to one biographer, Muhammad was so convinced of the benefits of good oral hygiene that he cleaned his teeth with a siwak even shortly before his death. Prior to this, one of his wives had moistened the stick with her saliva.

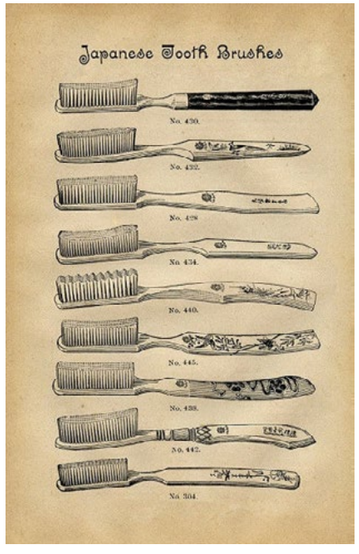
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Origins in China
Anyone who currently has several spouses, or possibly none at all, or maybe just one who takes a less hand-on approach to oral hygiene than that particular spouse, would probably be better off sticking with the type of implement that Popović used. Its origins lie in China. A model with an ivory handle and horsehair is said to have been used there as far back as the year 1000. The rustic version from around 1500 – made of cattle bones and pig bristles – proved more successful. At some point, after a lengthy delay, it also became established in Europe and North America.

Biting down
It is shocking how long it took the supposedly innovative West to get used to regular toothbrushing, despite brushes being readily available. The problem is usually illustrated by horror stories from the ‘rotten-toothed’ Middle Ages. But there’s no need to go back that far. During the American Civil War of 1861–1865, there were plans to issue Union soldiers with gunpowder and other ammunition in small paper bags. These were to be torn open with their teeth at the battlefront, as they would not have both hands free whilst holding their weapons. In theory, half a dozen teeth in roughly the right arrangement would have been enough to open a small bag; in practice, however, they were quite often missing!
As late as 1916, during the First World War, a third of American volunteers failed the ‘six-teeth test’.

Discovering a foaming cream
Such findings heralded a new era, and modern societies soon set about educating their members in cleanliness and health. Medical professionals had always known what needed to be done; social reformers put the concepts into practice. However, the high cost of pig bristles stood in the way of widespread prevention measures.









The wealthy, at least, could afford toothbrushes and, in the 19th century, dipped them into pots containing increasingly sophisticated contents. An innovation at the time was a cream that foamed up in the mouth. The idea caught on. A little later, the son of an American toothpaste manufacturer travelled to Paris and spent his time hanging about in artists’ studios. The tube-like objects from which the painters squeezed their paints onto their palettes caught his eye. He passed this observation on to his father and from 1892 onwards, consumers became familiar with the toothpaste tube.

The plastics revolution
In October 1938 – and it was high time – the pig bristle era came to an end. In New York, the chemical company Du Pont announced a particularly flexible synthetic fibre. The managers envisaged a world full of nylon stockings, nylon cling film and nylon fishing lines. They also announced which radically innovative product would be the first to hit the market: toothbrushes with nylon bristles. These were much softer than those made from boar and sow bristles and, above all, affordable.
If one overlooks the plastic pollution plaguing our planet, the history of the toothbrush has since entered its golden age. Toothbrushes and toothpastes designed to combat tooth decay have been on the market since the mid-1950s. So we have everything we need.

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The path to the modern age
That said, some questions remain unanswered, and this is where solid research comes into its own. Should one brush before or after breakfast? Floss or use an interdental brush every day? But the trickiest question of all is: manual or electric?
Back in the mid-20th century, the Geneva-based microbiologist Philippe-Guy Woog – who had suffered from severe gum disease as a young man – had already championed the use of electricity. He sought a solution to his problem and ended up developing the modern electric toothbrush (‘Broxodent’), which has been available since 1954.