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“Men go abroad to wonder at the height of mountains, at the huge waves of the sea, at the long courses of the rivers, at the vast compass of the ocean, at the circular motion of the stars, and they pass by themselves without wondering,” wrote Saint Augustine.Of all body parts, the tongue is especially overlooked, too often taken for granted. Treated as the second Cinderella of the sensory organs (after the nose), the tongue is in fact a talented and tireless gymnast that deserves to be decorated. Here are the ten special talents of the tongue…

Speaking

A flexible matrix, made up of eight different muscles, your tongue moves in myriad ways to form different word sounds. To pronounce “sit”, your tongue arches high in the mouth; for “stand”, the tongue falls flat to the bottom of the mouth.

As a baby, it takes on average two years of experimentation to train the tongue to form simple sentences. After a stroke [4], a speech and language therapist may use exercises to improve the strength, control and coordination of the tongue, lips and jaw, helping speech return.

Savouring

Looking rather like microscopic rosebuds, your taste buds, in their thousands, house tiny taste cells which are responsible for the sensation of taste.

The primary tastes are sweet, salty [5], sour, bitter and savoury. Interestingly, you’ve also got taste buds in the back of your throat and in the roof of your mouth (which is why dentures can impair flavour). Aside from taste, the tongue also senses the temperature and texture of food, enhancing the eating experience.

Starting digestion

Digestion is the breakdown of food and it begins in the mouth and ends in the intestine [6]. After being torn and crushed by teeth, your food is squashed and compacted by the tongue, and rolled around in the mouth to mix it with salivary secretions.

Beginning the breakdown of fats in your food is “lingual lipase”, an enzyme secreted in salivary glands of the tongue.

Swallowing

Try to swallow without moving your tongue—you can’t. Writing in *Reader’s Digest* more than 50 years ago, JD Ratcliff described the “symphony of activity, conducted by nerves and executed by intricate muscles” that is a swallow. “The front part of the tongue presses against the hard palate in the roof of the mouth,” he writes, “then the rear portion humps up, catapulting food into the passage which leads to the esophagus”.

Knowing how to swallow before we emerge [7] from the womb, this reflex is essential for survival.

Showing disease

Many bodily diseases manifest first in the mouth, with the tongue being called “the mirror of disease”, acting as an early warning system. A bright red tongue, for example, may be a sign of folic acid or vitamin B12 deficiency.

Kawasaki disease [8] is an illness that causes inflammation in blood vessels. It is one of the main causes of acquired heart disease in children under five in the UK. A swollen, red, bumpy “strawberry tongue [9]” is a common symptom.

Strengthening or shattering self-esteem

“The tongue has the power of life and death” writes King Solomon in the *Book of Proverbs*. Elsewhere in the Bible, the tongue is likened to a bit in a horse’s mouth, a rudder on a ship, or a small spark that starts a forest fire: small in size but oh so powerful in effect.

Capable of praising and cursing, the tongue can divide families, destroy reputations, and breed distrust. But a timely word spoken, in love, comfort or inspiration, is “like apples of gold in baskets of silver” (Proverbs 25).

Stepping back in time

For me it’s treacle tart: take a mouthful and I’m transported back to seven-year-old-me in grandma’s kitchen, eating her fresh-baked speciality. Food nostalgia [10] is real and vivid, with novelist Marcel Proust reflecting on the ability of the tongue to transport back in time, to lost people, to lost places in *Remembrance of Things Past*:

“And soon, mechanically, weary after a dull day with the prospect of a depressing morrow, I raised to my lips a spoonful of the tea in which I had soaked a morsel of the cake. No sooner had the warm liquid, and the crumbs with it, touched my palate than a shudder ran through my whole body, and I stopped, intent upon the extraordinary changes that were taking place…I was conscious that it was connected with the taste of tea and cake, but that it infinitely transcended those savours, could not, indeed, be of the same nature as theirs.

…When from a long-distant past nothing subsists, after the people are dead, after the things are broken and scattered, still, alone, more fragile, but with more vitality, more unsubstantial, more persistent, more faithful, the smell and taste of things remain poised a long time, like souls, ready to remind us…”

Summoning other senses

Your tongue works in tandem with your nose, your eyes, your ears [11] and your fingertips to produce what we call “taste”. An apple, for example, tastes better, while a banana tastes a whole lot worse, when it makes a loud crispy crunch on biting. Much of what you taste in a wine comes from your sense of smell, while the tastiest grapes are those that feel, to the fingertips, firm, plump and tightly attached to the stem.

The visual appearance of a meal can affect its appeal to our tastebuds: puree food moulds [12] bring softened foods back to life to improve perception and palatability.

Sign of respect or show of defiance?

In traditional Tibetan culture, sticking out the tongue was a way of greeting one another. Seen in the movie “Seven Years in Tibet”, the gesture was a reassurance that you were not a reincarnation of the cruel king, Lang Darma, whose tongue was black.

Among the M?ori people of New Zealand, sticking out the tongue is a part of the ceremonial war dance, known as the haka [13], used to signify strength and ferocity. The All Blacks perform the haka before each rugby match.

Seduction

Best seen in motionless alligator-snapping turtles, lying in wait at the bottom of a swamp, so-called “lingual luring [14]” involves a wiggle of the tongue, showing off a worm-like blob at the tip. Fooled by this sight, a fish unwittingly enters the turtle’s mouth, becoming prey. The snowy egret, meanwhile, uses its tongue to make a fast flicking on the surface of water—attracting small fish for lunch.

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