Scents and sensibility

When Barbara Lantin lost her sense of smell, her world became not only dull but dangerous. Then she discovered how the Cinderella sense is more powerful than we realise

Illustrations ***Paul Oakley***

FOR MANY YEARS, my life was devoid of all smells, good and bad, thanks to a batch of polyps high up in my nose. After a while I resigned myself to my missing sense, although being barely able to taste was more depressing (around 80% of taste is actually smell). Cheese, chips, marmalade and Marmite were almost the same to me: only sweet, salt, sour and bitter remained distinguishable.

It was not until I was about to cook some 'fresh' fish – and was stopped in the act by my children holding their noses and pretending to gag – that I realised something had to be done. Having no sense of smell was not just a nuisance – it was endangering my health.

'Smell is the Cinderella sense,' says Dr Glenis Scadding, consultant allergist and rhinologist at the Royal National Throat, Nose and Ear Hospital in London to whom I was referred by my GP. 'In fact 1% of our DNA is devoted to it – a huge amount – probably because in evolutionary terms the "smell brain"

was terribly important – in helping us to find food, for example.

'Some 2-3% of the population has anosmia – a reduced sense of smell – and they often become depressed because it is as if all the colour is washed out of life. They are also in danger because they cannot detect fire, gas leaks or rotten food. But the problem is not always taken seriously.'

A nasty operation temporarily restored my sense of smell, but the effect did not last and I vowed never to subject my nose to surgery again. The newer technique of medical polypectomy, involving the use of oral and nasal steroids followed by low-dose steroid drops, works in around 50% of cases – including mine. One of the first odours I inhaled after my sense of smell was restored was manure being spread over country fields: to others, a pong, to me, the sweetest scent on earth.

The scent of a good story

Drawn in by my own experience and as a health journalist, I set about investigating the sense of smell, which it turns out is far more significant than most of us realise. It is with us in the womb and can remain a potent force in old age. 'We underestimate the importance of smell to our wellbeing,' believes Professor Tim Jacob of the School of Biosciences at Cardiff University.

'There are suggestions that it can influence mood, memory, emotions, mate choice, and the immune and endocrine systems. Anosmia can affect people socially, psychologically and physiologically. It can lead to loss of libido – because a lot of human interaction is down to smell, and to weight loss or gain – people with no sense of taste either forget to eat or overcompensate by eating too much.'

The whiff of romance

Many people have tried to bottle the scent behind sexual attraction. According to research by Dr Alan Hirsch, neurological director of the Smell and Taste Treatment and Research Foundation in Chicago, the smell of pumpkin pie paired with lavender, black liquorice or doughnuts caused the greatest increase in penile blood flow in men – allegedly because these imitate odours in human sweat. Those unlucky in the dating game may be tempted to splash out on Scentuelle, a skin patch available by mail order (0870 062 5746), which claims to increase sexual desire through scent molecules that mimic the size, shape and electrical charge of dopamine, a neurotransmitter that plays a role in mood and arousal. But Professor Jacob is sceptical. 'You cannot reduce the chemical reaction of what happens when two people meet to a single compound,' he says.

> A lot of human interaction is down to smell, and it is very important in partner choice

The smell of sweat can also influence our relationships on a more subconscious level. We've all heard of instances when women working together – such as air stewardesses, or living together – such as in student accommodation, notice their menstrual cycles start to coincide. The cause is pheromones: powerful chemicals emitted from the skin. These are not smelled consciously but are thought to be detected by the vomeronasal organ, a tiny receptor in the nose that is much larger in dogs, hence their ability to smell and react to someone who may be a threat, as they will be sweating due to stress.

Although our sense of smell can't compete with a dog's, in women it is more acute than in men, particularly around the time of ovulation and during pregnancy. This heightened sense undoubtedly plays a part in sexual attraction, but again it is likely to be at a subconscious level, says Professor Jacob.

He goes on to explain how important our sense of smell is when it comes to choosing a partner, 'We are attracted to people with a dissimilar immune system to our own – so that our offspring have increased disease resistance – and our immune system determines our odour type. Research has shown that there is a higher proportion of divorce in ▷

people with similar immune types.'

Research has also found that the odour we emit is influenced not only by our genes and our gender – and at a superficial level by what we eat and apply to our skin – but also by sexual orientation. Gay men and women had different body odour preferences from those of heterosexuals.

Smell's healing power

If you've ever experienced an aromatherapy massage you'll know the bliss of inhaling powerful essential oil combinations, such as lavender and geranium, and how they either help you relax, or pep up flagging spirits according to their combination. But how do they work? Some experts, including Professor Jacob, claim that any benefits are caused by the association of the fragrances with pleasant situations.

However Dr Judith Howie, an aromatherapist and scientist at Thames Valley University, believes that certain components in aromatherapy oils interact with various biochemical receptors in the nervous system to help rebalance the body. 'The small fat-soluble molecules of the oils are absorbed through the membranes of the respiratory system, enter the bloodstream and have physiological effects on the body,' she explains. 'The combination of emotional and physiological effects can be very powerful.'

In research with essential oils, it emerges that lavender can improve sleep – hence the habit of putting lavender bags under pillows – and that rosemary can act as a stimulant. Camphor, eucalyptus and menthol can relieve a blocked nose, or a foggy brain. Peppermint can boost concentration – when the air in a Moscow classroom was scented with peppermint, pupils performed better in some tests.

Aromatherapy oils can also be used to treat adults with learning difficulties or behavioural problems. Jane Ellwood, an aromatherapist who treats adults, explains: 'One of my patients with Asperger's Syndrome found it difficult to have an eye examination because he didn't like to be touched on the head. We identified a smell he liked and I used it in a face massage in a calm environment. When the same oil was sprayed in the car taking him to the optometrist he relaxed enough to have an examination.'

A sense of the past

It's not just aromatherapy oils or pheromones that can tap into our emotions via our sense of smell. This link between smell and memory can be harnessed in 'reminiscence rooms', where fragrances are used to connect with elderly people whose minds are failing. 'The smell of mothballs works really well for people with dementia,' says Jane Ellwood. 'Lavender and violet water can also trigger long-forgotten memories.

'I had one patient with dementia who used to work on the railways. The only way I could communicate with him was by producing a bottle of engine oil. When he recognised it, he would reminisce about his work.'

Ponder on the evocative odours that can transport you back in time. A whiff of your mother's perfume; taking the top off a jar of cinnamon and remembering grandmother's apple pie; pipe tobacco… stationery cupboards… garden soil.

As Professor Jacob tells us: 'Smell is like a backcloth in the theatre against which the action happens.' □

HOW SMELL WORKS

Technically, smell is our sensory response to chemical molecules called odourants. Each smell can be either a single chemical or a complex mixture. The key to our sense of smell lies high up the nasal passage, in the olfactory epithelium, which contains around 10 million olfactory receptor cells. The odourants adhere to these cells, which are connected directly to the limbic system, the most primitive part of the brain, thought to be the seat of emotion – which may explain why smells can trigger deep-seated feelings and memories.

My condition, anosmia – from New Latin, *an* (without) and Greek *osme* (smell) – is commonly caused by a nasal blockage, usually due to polyps, fleshy swellings that grow in the nostrils. About one in every 100 people develop these and they are most common in men and people aged over 40. Other causes of anosmia are inflammation as a result of allergic rhinitis (eg hayfever) or by damage to the olfactory nerves from a heavy cold, injury or inhaling chemicals.

If you are concerned about your sense of smell, visit your GP for advice.