



The fifth sense

I was supervising an intern recently and we were examining a two-week-old baby when the intern noticed me hovering close to the baby's abdomen and asked me what I was doing. I said I was smelling the baby's umbilicus. She said she had never seen or heard of anyone doing that before.

I can't remember when I became an umbilicus smeller, but I now do it almost automatically. Some people are navel gazers, but I seem to have become, with proboscis waving gently in the air, a navel sniffer. We are one of the few professions that are allowed into other people's personal space and over the years, we have acquired a repertoire of remembered smells that we can use for diagnostic purposes.

The olfactory sense is often called the fifth of the five special senses. The other contenders for the place are taste and touch. These three play second fiddle to their more powerful sisters, the eyes and the ears.

Smell, I am told, is the only sense that does not first go through the thalamus before going to the cortex. So it goes via the limbic system where the emotions lie and so is an emotional sense in a way, which explains the nostalgia associated with smell.

Smell is one of those senses we often don't realise we are using. It is not processed until it reaches the cortex and therefore smell tends to be registered subconsciously. So we may smell something on a patient, but not notice it except, *en passant*, as an ephemeral back-of-the-mind thought.

You have to have smelled the particular smell in the first place before you can recognise it again. This sounds rather obvious, but it is not much use telling someone that it smells of "pear drops" if they have never smelled pear drops before or know what pear drops are. I have paused here to Google "pear drops" which takes us to the magnificent Wikipedia which informs us that a pear drop is a boiled sweet and the cause of the smell is ester isoamyl acetate. This is, of course, the stuff you have been waiting to hear all your life.

This has to be experiential learning at its most fundamental. After one's initial exposure, one does not usually have to smell an odour many more times to specifically recognise it.

The smell of *Pseudomonas*, for instance, is in this category. It is described as "fruity", but that could mean almost anything.

This difficulty in description is because it has no near comparison, but once you have smelled the particular smell of *Pseudomonas* and someone has told you what it is, then it is fixed in your olfactory memory bank.

In a way you can also smell poverty, anxiety, and various stress states, although these are also background senses and seldom recorded - the odour of unwashed skin, of sweat on synthetic fabric and old talcum powder in skin folds.

Some smells bring back vivid memories and the social situations tied to them. Perfumes, the wood smoke from an African fire, and the smell from a car engine, are some of the examples that may trigger pleasant memories. For instance, unpleasant memories are the smell of the "casualty cocktail" of blood, alcohol and vomit.

Alcohol on the breath can be either fresh or stale from the night before due to the breakdown to aldehydes, but my alcoholics are usually in the advanced team and smell of peppermint mouth spray.

Daily we diagnose smokers, reflux gastritis, dental caries, methane excreters, tonsillitis, vaginitis, rhinitis and early gangrene - partly on olfactory clues - and we have all diagnosed diabetics by getting closer to the patient's breath after a few priming facts from the history.

Some nostalgic smells come as quite a surprise. A patient who had grown up in a small village in the Free State said that when young he was a sickly child and was often visited at home by the village GP. The kindly old GP used to arrive with his doctor's bag and the patient remembered he always had a particular antiseptic smell about him. One day, much later in life, he was at a party when he had one of those olfactory flashbacks and he suddenly recognised the smell that surrounded his old GP. He realised that it was whisky.

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