

The Origin of Taste

By Dr Jane Parker – Reading University Flavour Centre

Who would have thought flavour would be so complicated!

Taste, by comparison is simple: just five basic components. Although, in Europe, we used to think that there were only four: sweet/sour/salt/bitter, but the Japanese have known about the fifth, *umami*, for some time. Umami delivers the mouth-filling savoury experience. Researchers now think that there may be more such as the pungency from some spices.

Dr Parker explained that much of what we actually experience when we eat or drink is actually associated with aromas, either through nostrils or round the back of the throat. In comparison with the sweet/sour/salt/bitter tastes, there are at least 10,000 different compounds with distinct aromas, and each of these is likely to have a distinct set of aroma receptors in our nasal cavities, so each of us tends to experience smells somewhat differently. Furthermore, our sensitivity to some of these compounds is extreme: dilute a drop with a swimming pool full of water and some esters can still produce a distinct meaty smell. In fact, biological noses continue to beat the best gas chromatography equipment when it comes to detecting small amounts of particular compounds and trying to discover what compounds we actually react to is clearly tricky when they are below the level of instrumental detection and masked by much more abundant, though less powerful, compounds.

As if that were not complicated enough, what we experience is strongly affected by what we see and what we hear while eating. This is successfully exploited by top chefs such as Heston Blumenthal when devising original dining experiences. The aroma from the same compound may convey very different associations according to the context in which we encounter it. For example, the Lily of the Valley smell is also present in faeces.

All of this makes for challenging research, much interest from food manufacturers and a delightful lecture, with accompanying flavour and aroma samples.