

What's in your PERFUMIE?

From essential oils to super-synthetics, do you know what goes into making your signature scent? Eminé Ali Rushton gets to grips with modern perfumery

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Consumers are savvier than ever. We now expect to know where and how our food is grown, if there are parabens or sulphates in our body wash or silicones in our baby's nappy balm. From face creams to fast food, transparency is the new catchword – with brands under pressure to reveal the hows and whys that go into forming their products. Your regular chocolate bar may now be Fairtrade, and perhaps your body wash has recently scrapped sodium laureth sulphates... but what of your beloved bottle of signature scent?

Scent is a law unto itself. It is part ideology, part interpretation, part original creation. A scent that smells precisely like rose is not a rose, but a complex blend of natural and synthetic molecules, that can conjure dried petals, tea roses, rosewater... the possibilities are endless.

Setting the standards

Given the 'mechanics', there's a logical reason why fragrance isn't exhaustively labelled – it's nigh on impossible to fully label something with so many tiny, complicated molecules; an essential oil, for example, can contain up to several thousand components. But the main reason that few of us are aware of the specifics is simple – perfume is not subject to

the same testing or labelling laws as other beauty products. In America, the US Food and Drug Administration oversees cosmetics, but not fragrance – this is the remit of the International Fragrance Association (IFRA), a self-governing body that outlines standards and asks perfumers to comply, but fragrance producers are under no legal obligation to join. IFRA states that: '90 per cent of global production volume of fragrance compounds is IFRA-compliant', but a 2010 study by the Environmental Working Group found that of the 91 chemicals present in its study of 17 name brand fragrance products, only 27 had been assessed by the IFRA.

'Regulations restrict more natural ingredients than synthetics as some natural oils can be skin-sensitisers and contain allergens that are IFRA-restricted,' says perfume creator, Azzi Glasser. 'Citrus oils such as lemon, orange, mandarin, grapefruit and lemongrass and spices, such as cinnamon and clove, are on the restricted list at very low levels, even for use on skin. We also can't use natural animal-derived ingredients, so synthetics such as musks have to be used. Without these ingredients, fragrances tend not to last on the skin and disappear after a couple of hours.'

Only two years ago, the EU published a report on the incidence of allergic reactions caused by, among other things, >>>



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>>> oak moss – a key natural ingredient in both Chanel No5 and Miss Dior. A ruling was made and the new EU regulations come into force in early 2015. Perfumers will no longer be able to use this ingredient unless they can isolate the allergenic molecules first (in this case, atranol and chloro-atranol), but doing so alters the depth and power of the compound, too. The ruling, which also bans lylal (a synthetic molecule that mimics lily-of-the-valley), will affect some brands more than others. In an interview with Reuters in July, chief perfume creator at Chanel, Jacques Polge is quoted as saying, ‘At Chanel, we follow very closely talks about regulation and scientific findings concerning raw materials.’ As a result, Chanel stopped using lylal in 2010 and has been evolving its formulas in anticipation of new legislation. In an official press release from Chanel, the company states that ‘this new regulation, as drafted, will allow us to make adjustments to the qualities of the raw materials concerned while preserving the olfactory identity of our perfumes. This is not the first time the regulation has been amended, and keeping up can be a challenge. But that is exactly what our “nose” (Polge) and the Chanel Fragrance Laboratory is for – to use his talents to comply with the regulatory constraints and, at the same time, preserve the personality of the perfumes.’

Time for change

Bernard Toulemonde, general manager at IFF-LMT Naturals – a producer of superior, ethically sourced natural materials for fine perfumery – is uniquely placed to feel the effects of this change. ‘We have had to adapt our extracts to the changing regulation by limiting the residual amount of allergens, with a view to allowing perfumers to continue using the natural extracts,’ he explains. Where there’s a will, there’s a way, and the onus is now on producers such as Toulemonde to get creative, and deliver the goods to ensure that naturals remain a staple, crucial part of perfumery’s future.

‘In 15 years, I have only had one woman have an allergic reaction to my perfume,’ says Linda Pilkington, founder of luxury British fragrance house, Ormonde Jayne. ‘It was Tolu and knowing the formulation, I was aware that one of the natural ingredients was a potential irritant. I refunded her, and offered her samples of all our other fragrances to try. She came back two weeks later, not having had a reaction to the other scents, and bought a different one. She’s still a customer today. It’s common sense, isn’t it? People have nut

allergies, but you don’t ban nuts from supermarkets. If you’re allergic, you can choose to stop using it.’

Sometimes the decisions can appear arbitrary. ‘A couple of years ago, they said basil was a potential allergen,’ continues Pilkington. ‘We eat it raw and it’s good for us – but they were saying that using it as three-parts-in-a-thousand could be bad for you. I really question the logic sometimes.’

Banning a substance that causes allergic reactions (usually dermatitis) in only one to three per cent of the population can seem an *outré* move, but given that known allergens need to be labelled or removed (and perfume companies are averse to suggesting that their luxury goods ‘may cause sensitivity or allergic reactions’), the die was cast.

What about synthetics?

Potential bans do not end with naturals. ‘There’s also talk of banning Iso-E-Super, the main ingredient of Escentric Molecules’ best-selling Escentric 01 (£65.50, cultbeauty.co.uk), and Ambroxan – two synthetic molecules which smell divine and are key

components of modern, luxury perfumery. It would be such a shame to lose these beautiful molecules,’ says Pilkington.

Frédéric Malle agrees, and has always been vociferous in his support of synthetics. ‘Why should we only work with naturals when synthetics often allow us to be much more precise, or even give us access to smells that are not in nature?’ asks Malle. The perfumers who create scents under the Malle name have total freedom – ‘and as a result,’ Malle continues, ‘some of them have used extravagant quantities of the most precious naturals, and the quality of the raw materials that we use is unrivalled. But all our perfumes contain synthetic raw materials. Without them, perfumers wouldn’t have been able to accomplish the level of artistry that they seek. I believe this debate stems from a misunderstanding: most people consider “synthetic” to mean cheap, semi-mass fragrances that have invaded our world, and “natural” to mean good fragrances. This fact is reinforced by people’s love for “classics”, which they believe to be natural scents, because they are old. These ideas are false, especially the misconception that classics are 100 per cent natural – none of them are.’

Potential allergens

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>>> of the potential allergens in there, phthalates have caused the biggest ripples. Commonly found in plastics, the EU has banned them from being used in children's toys but, as The Organic Pharmacy founder Margo Marrone points out, they're still widely used in cosmetics. 'I had no idea until I started making perfume that the alcohol used has phthalates added to it to make the perfume last longer on the skin,' she says. 'Phthalates are not only endocrine disruptors, but get absorbed through the skin as well as the lungs. I treated a lady for sudden headaches she had for three weeks before I realised it was her new perfume. Most people forget we actually breathe perfume, and not only does it enter our blood stream but it also enters our central nervous system.'

The last EU-commissioned study on the use of phthalates in cosmetics is dated 2007 – and came after the 2005 paper published by Greenpeace *Perfume – An Investigation of Chemicals In 36 Eaux de Toilette and Eaux de Parfum*. Ten phthalates were found across the tested perfumes, with the most common, DEP (diethyl phthalate), present in all, and up to a concentration of 2.23 per cent*. DEP has not been banned and is still used as an ethanol denaturant – for a longer-lasting scent.

Doing it naturally

So, is it possible to create an entirely natural, long-lasting and commercially viable perfume? 'Yes, and no,' says Toulemonde. 'Although not all natural ingredients are (or even can be) obtained ethically, it is possible to mix the right natural candidates to deliver a perfume. When considering the modest cost contribution of usual ingredients to the final price, the extra cost linked to ethical sourcing is bearable. Will the end product smell good? Probably yes. Will it have all the other attributes of classical compounds in term of diffusivity, sillage [its staying power, and the 'trail' it leaves behind the wearer] and tenacity? Probably no.'

'Why do all top perfumers use synthetic and naturals regardless of their origins?' says Malle. 'Simply because naturals, which include absolutes, essences, effleurage and CO2 extractions, never smell exactly like nature. They are to flowers what strawberry jam is to strawberries: delicious, but different. A lot is missing from them. So, one needs "nature identicals" (synthetic ingredients that copy nature) to complete the picture.'

On the flipside is The Organic Pharmacy's Marrone, who has produced not one, but five, all-natural fragrances that possess both complexity and staying power. But it didn't

happen overnight. 'Making it organic was very, very difficult,' she admits. 'A sophisticated perfume can't be made just from essential oils – there are resins, powders, extracts and a fair bit of chemistry that goes into it. By extracting certain elements from essences, it's possible to make a much more sophisticated fragrance because you are isolating the actual notes from an oil or essence – like taking apart the notes from a symphony and then putting them back together depending on what you want to hear. Our perfume combines essential oils, flower, herbal, exotic and nature-identical extracts. Finally, the organic rye alcohol we use is a far cry

from the phthalate-infused ethyl alcohol you get in most perfumes. Ours is gentle on the skin and free from pesticides and phthalates.' Hearteningly, most fragrances are now made with naturally-derived alcohol bases. 'The most common is from beetroot, which is widely used in the industry,' adds Glasser.

That favourite juice of yours, then, is a complex creation, and once past the synthetic/natural/

allergen debate, there are ethics to consider, too. For all perfumes that utilise natural ingredients, there's a farmer, supplier or producer behind those notes. 'It's difficult with some notes, such as sandalwood,' says Marrone, 'which is classed as endangered, so we must be careful of the source. And there's now only one source of organic jasmine in the world. If that becomes obsolete, there will be no organic jasmine.'

Lauded perfumer Malle also works exclusively with IFF-LMR Naturals. 'We provide Frédéric Malle with exceptional extracts such as rose essence produced in our plant in Turkey, patchouli fractions re-distilled in our French site at Grasse, cinnamon CO2 extracts or molecular distilled Indian tuberose, Haitian vetiver or bitter orange oil – just to cite a few,' says Toulemonde. 'We are progressively integrating all the main ingredients of the perfumery, controlling the supply chain from vegetal production to delivery of refined extracts.' With such control comes complete transparency and accountability – a real boon for the consumer who demands to know the provenance of their product.

Transparency and traceability

There are responsible, affordable offerings on the market. The L'Occitane group, which produces the eponymous line as well as Melvita, 'knows all the names of the growers of our ingredients to allow transparency and traceability,' says founder Olivier Baussan, 'particularly for our lavender, which has to be protected from pests. We participate in the

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CLOCKWISE FROM LEFT: L'Occitane Arlésienne eau de toilette, £39/75ml The Organic Pharmacy Organic Glam Jasmine eau de parfum, £139/100ml Neal's Yard Remedies Pure Essence No.2 Rose eau de parfum, £37/50ml Frédéric Malle Eau de Magnolia eau de parfum, £145/100ml Bella Freud Ginsberg is GOD eau de parfum, £65/50ml

endowment fund created to finance research, and sign contracts with the lavender growers that guarantee the purchase of their harvest for the next five years. The first distillation of organic verbena from Provence was cultivated by Rémi Margiela, and is used in all our Verbena fragrances.'

Interestingly, if ever a natural ingredient is at risk of endangerment, 'we create a synthetic version of them in the lab.' So, rather poetically, man can step in when nature needs a helping hand, too. 'All other ingredients are natural and ethically sourced and any alcohol used in our fragrances is plant-based,' says Baussan. Meanwhile at Melvita, 'all scents are formulated using traditional perfumery techniques. The organic Eau de Toilettes are made with natural ingredients and elegantly combine aromatic blends of fruits and fragrant essences,' says Melvita founder Bernard Chevilliat.

'Neal's Yard also produces two fragrances: No.1 Frankincense and No.2 Rose, both of which are made from pure, high-quality natural ingredients,' says Glasser. 'Both are ethically sourced and free from petroleum-derived ingredients which have been tested to work in harmony with the skin.'

As for Glasser, she says: 'I'm still searching for a reliable source of natural organic essential oils that are truly ethically grown and uphold the regulations and laws of the industry. Once I am truly happy with this source of supply, then I can compose 100 per cent natural fine fragrances that do not just smell like an "aromatherapy" pharmacy, but more of a complex "perfume" that lasts on the skin and embodies the unique nature I give to my other creations.'

So, when is Eau de Rose not Eau de Rose? When all is said and done, it's all in the nose.