

Note from Paris: Fragrance in Our Lives—A Choice Worth Making?

IFRA hosts a day dedicated to the pros and cons of fragrance in the contemporary world^a

1 *Jean-Pierre Houri* (second from left), president of the International Fragrance Association (IFRA; www.ifraorg.org), introduced a one-day seminar in Paris titled “Fragrance in Our Lives—A Choice Worth Making?” The event focused on the science of olfaction, the value fragrances bring to consumer products, and the perfumer’s point of view, featuring a range of experts.

Houri outlined the role of IFRA as the global trade federation representing the fragrance industry. He explained the role of IFRA in ensuring the safe use of fragrances through its global safety program, which includes the Code of Practice, the IFRA Standards and Compliance Program. In total, the industry invests about \$14 million per year in the organization’s research and safety program, seeking to support the best science available to the industry through the Research Institute for Fragrance Materials (RIFM) and the evaluations of an independent Expert Panel.

Speaker and perfumer **2** *Allan McRitchie* (formerly of P&G), who has worked on key brands such as Bold and Fairy Liquid, underscored the contribution fragrance makes in the success of consumer products. He pointed out that in products such as shower gel, shampoo, fabric conditioner, laundry detergent and paper products, fragrance may be used at levels typically ranging from 0.01–3.0%. Despite these relatively low percentages, McRitchie noted that fragrances have a major effect on the products consumers choose, particularly laundry products, in which fragrance plays a multifunctional role. In fact, he said, consumers “believe the freshness of the perfume in their product is extremely or very important (about 90% in Southern Europe and 70% in Northern Europe).”

“In product testing consumers generally comment more often about perfume than any other aspect of the product,” McRitchie noted. “Around a third of consumers will typically sniff products on the supermarket shelf before deciding to buy a product ... even amongst consumers who don’t consider perfume extremely or very important.”

In short, unscented (or poorly scented) products fare less well with consumers than perfumed versions. These scents provide olfactive pleasure, evoke memories and emotions, and bring pleasure to everyday work.

As a result, fragrances in consumer products have



Tim Jacob, Jean-Pierre Houri, Laurence Fanuel, Allan McRitchie and Thomas Hummel.



Allan McRitchie.

become increasingly sophisticated, taking cues not just from competing products, but also fine fragrances. In addition, McRitchie explained, “Versioning has provided greatly increased perfume choice in many categories. A perfume that’s very well liked and appropriate can have a huge effect on the appeal of a product to consumers (e.g. perfumes often with a lavender dimension to their character have been highly successful in providing consumers with a freshness perceived as relaxing).”

Due to the above factors, McRitchie noted that fragrance is a key driver for brand equity and loyalty, meaning that consumer product companies must tread carefully when reformulating a fragrance. As McRitchie

^aPhotos courtesy of the International Fragrance Association.

explained, “Some perfumes become so strongly associated with a product that they can become the most important element in it—sometimes becoming so familiar that they are no longer thought of by the consumer as ‘perfume.’” In other words, the fragrance becomes indistinguishable from the product and brand.

3 Aside from brand identity and consumer pleasure, said McRitchie, fragrances impart functional benefits. For instance, they are key in masking the off notes of components of the consumer products to which they are added. This may include the “solventy petrol” scent of surface-active ingredients, waxy impressions of fatty acids, the fishiness of conditioning agents and the “meaty foisty” smell of enzymes, not to mention the odor released by products such as detergent bleaches when dissolved in water.

In products such as laundry care, fragrance underscores freshness post-washing, thus “underlining performance,” aided by technologies such as microencapsulation or malodor counteraction.

“The right smell can provide a strong reassurance of the effectiveness of the product,” McRitchie noted. “Testing of products identical apart from perfume can show significant differences in perception of effectiveness: towels seem softer; laundry seems cleaner; skin seems softer after washing dishes.”

Finally, McRitchie explained that fragrance can also provide antibacterial action in household products. For instance, clove oil (eugenol), wintergreen oil (salicylic acid), birch oil (salicylic acid) and thyme oil (thymol) have well-known antibacterial activity.

4 Perfumer and senior scientist **Laurence Fanuel** (Takasago International) spoke of fragrance in the larger context of the five senses, highlighting a multidisciplinary approach to understanding perfumery’s importance in congruent product design. Olfaction, she explained, harnesses both the limbic system (primal thought) and the neocortex (the “rational mind”), creating a holistic experience of both present sensory inputs and the implications of past emotional associations of odors. From a biological standpoint, smell has always been humans’ first sense for the detection of food and predators, aiding survival. Yet, as human vision became more sophisticated, smell began to lose importance. Today, humans have just 350 active olfactory receptors, compared to 1,000 in dogs. Fanuel explained that this means that humans smell combinations of molecules rather than single materials.

Despite this, she declared: “Smell is the main sense for life.” It is the first sense formed in the human embryo, at 11–15 weeks, allowing for the detection of chemicals in the outside world. In fact, fully 1% of the human genome is related to olfaction.

5 Fanuel told the audience that the sense of smell is clearly linked to well-being, via the activation of memories and emotions and resulting emotional and physiological reactions. Furthermore, olfaction can unlock subconscious memories linked to positive physiological and psychologi-



Allan McRitchie.



Laurence Fanuel.



Smell is clearly linked to well-being, attendees were told.

cal experiences: cultural, familial and personal. Of course, she noted, the reverse is also true. Smells with unpleasant connotations are similarly undesirable.

Despite this, Fanuel noted that fragrance is not typically counted among the arts. Still, perfumery employs many common artistic techniques to formulate compelling scents: overdose, unexpected mixes of materials, texture and signature—all of which can be deployed using a mixture of personal vision and technical prowess. Because smells can trigger such strong positive or negative reactions, context and congruency are key, said Fanuel. This

calls for the matching of artistic inspiration—places, personal vision, singular fragrance materials, insights from other creative works or products, natural scents, cooking, existing fragrances, the past, and an appreciation for the unexpected—with more practical concerns such as market, product, scientific and safety data; cost parameters; fashion and cultural trends; and consumer testing.

All of these elements are required to create fragrances, Fanuel explained. These complex mixtures of natural and synthetic materials—comprising perhaps hundreds of components and many different chemical classes—present complex challenges. The perfumer explained several techniques for blending components into compelling scents:

- Begin by mixing just a few molecules to create a new smell
- Start with an overdose of a desired ingredient, and then “dress it up”
- Formulate unexpected—and even illogical—combinations of molecules
- Begin by looking at existing formulations to get inspiration
- Start from the analysis of living matter

Fanuel noted that overdose is risky due to IFRA and REACH requirements.

6 Of course, Fanuel concluded, fragrance is part of a larger continuum of product congruency, including packaging, concept, color, touch/weight, story, etc. If everything works in synergy, the end product will produce strong emotions, consumer identification with the product, high believability and congruency, pleasure while using, trust, loyalty and improved quality of life.

Fanuel noted that these elements will remain important, even as the world changes. As the world’s urban population reaches 5 billion by 2030, consumer needs will evolve.^b About 3/5 of people will live in cities, mainly in developing countries. These so-called megacities will each be home to 10 million or more people. Twenty-five of these cities will exist by 2015. Life in megacities will necessarily mean a disconnection from nature and immersion in pollution. Air and odor management for this burgeoning class of consumers will present the next calls for innovation for the fragrance industry and its customers.

7 During his presentation, “Smell: More than Meets the Nose,” **Tim Jacob** (Cardiff University’s School of Biosciences) discussed the secondary benefits of odors. Beyond the mechanisms of odor detection by humans, Jacob went on to outline the science and promise of aromatherapeutic applications for consumers. Although aromatherapy has been used for centuries around the world, these secondary effects of aromatic materials are relatively poorly defined. It has long been thought that the prevention and/or treatment of disease via essential oils have been produced by stimulation of the limbic system or by “intrinsic pharmacological properties of chemical ingredients.” Jacob put forth that the two actions are likely

^bwww.demographia.com/db-worldua.pdf



Laurence Fanuel.



Tim Jacob, Jean-Pierre Hourri, Laurence Fanuel and Allan McRitchie.

synergistic to varying degrees. It is well known that any pharmacological benefit is traditionally achieved via the permeation of active ingredients into skin and, eventually, the vascular system.

Because individual components within essential oils are responsible for any aromatherapeutic effects, Jacob discussed the need to stop looking at general effects of essential oils and look instead to the activities of single

chemical components such as vanillin or linalool. Certain key components may prove useful as antidepressants, local anaesthetics, and can potentially positively affect skin conductance, heart rates and breathing. Discovering these materials' particular mechanisms of action could "have huge potential benefits" for therapeutic, recreational and medical applications, according to Jacob.

The future, he concluded, is fragrant.

8 **Thomas Hummel** (University of Dresden Medical School) discussed anosmia, or the loss of the sense of smell. Linked with the other four senses, Hummel explained that the sense of smell affects food and drink choices, perception of body odor, even the selection of partners. How important is smell? Hummel noted that anosmics often become depressed and either overeat or lose their appetites. Sex drive, too, diminishes, particularly as a result of associated depression. According to Hummel, about 5% of the population will at some point suffer total loss of smell, while 20% will experience some degree of loss of smell. While surgery, drugs, vitamins and even acupuncture can revive the sense of smell, these treatments are rarely successful and poorly understood. He added that loss of smell due to aging can be counteracted by training that allows for the expansion of the olfactory bulb and the growth of the number of olfactory receptors.

9 During a panel Q&A session, **Thomas Hummel** said that while physiological effects of scents on the brain can be measured, they cannot be definitively determined as happiness. **Tim Jacob** noted that mood measurement techniques were being investigated and that specific physiological reactions can be detected, if not currently defined. In response to a question regarding the ways in which pregnancy may affect the way women react to smells, Hummel noted that necessary equipment, including MRIs, cannot be employed. Finally, **Allan McRitchie** and **Laurence Fanuel** were asked, theoretically, if the disclosure of formulas based on regulatory requirements



Thomas Hummel (right).



Tim Jacob, Jean-Pierre Houri, Laurence Fanuel and Thomas Hummel; back row: Allan McRitchie.

would affect the work of perfumers. McRitchie concluded that the lack of patents for fragrances would leave them open to ready duplication in the event of such disclosures, erasing intellectual property as a keystone to the fragrance industry.

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