

Book Review: Günther Ohloff's Olfactory Classic Receives an Overdue Update

Scent and Chemistry: The Molecular World of Odors by Günther Ohloff, Wilhelm Pickenhagen and Philip Kraft, Wiley-VCH, Verlag Helvetica Chimica Acta, Zurich, 2011, ISBN 978-3-906390-66-6

"The future of perfumery is in the hands of chemists," famously remarked Ernest Beaux, the creator of *Chanel No. 5*. "It is on chemists that we must rely to find new compounds thanks to which original olfactory notes could develop."

More than half a century after his comment, fragrance chemistry continues to play an ever-important role not only in the creation of new materials, but also in the analysis of natural essences and the discovery of novel application technologies. A strong technical knowledge is a prerequisite for professionals in all areas of perfumery. In this light, *Scent and Chemistry* is a much welcomed publication. Presenting rich research on the chemistry of aroma-materials, natural and synthetic, as well as examples from the contemporary fragrance market, this book offers a comprehensive review aimed at a wide audience.

Scent and Chemistry was intended as an update to the 1990 work by esteemed chemist Günther Ohloff, *Riechstoffe und Geruchssinn. Die molekulare Welt der Düfte* (*Scent and Fragrances: The Fascination of Odors and Their Chemical Perspectives*). Ohloff worked for a number of fragrance and flavor companies, including Dragoco and Firmenich, and was renowned for his synthesis of rose oxide and the discovery of an elegant woody note, the Firmenich-trademarked Polywood. His original publication was not a large tome—it was intended as a farewell book for his retirement rather than a comprehensive technical volume—but it contained such a wide spectrum of information that it quickly established itself as a reference on fragrance chemistry.

Ohloff passed away in 2005, and the task of updating the original work was taken up by his former colleague Wilhelm Pickenhagen and Givaudan fragrance chemist Philip Kraft. The new book is a complete revision that includes the latest industry research and techniques. *Scent and Chemistry*, however, is anchored by the same curiosity and painstaking attention to detail that characterized Ohloff's original publication. The synthesis, chemistry and application of aroma materials are the leitmotif that runs through the entire work. Eight chapters cover topics such as the history of chemical discoveries, odor perception, structure-odor relationships, natural raw materials and some of the most widely used synthetics.

The book opens with a historical overview presented from the angle of material discovery and production. It is a story of human errors and accidental discoveries, of misinformation and eureka moments. Some of these stories—like that of the first synthetic musks, which were first produced as a byproduct of explosives research—will be familiar to chemists, but to see the history of perfumery explained through the prism of materials will appeal to a broader audience.

The book shines once it enters into the discussion of raw materials, and this is its biggest contribution to the current literature. *Scent and Chemistry* features detailed explorations: the synthesis of raw materials, the components of natural essences, the molecular structures of the main odorants and, more importantly, their fragrance applications. This latter point is likely of most interest to the broader audience and is valuable to perfumers developing new accords, addressing stability issues or looking to understand what materials are used in benchmark fragrances. The authors rely on extensive scientific and market research to illustrate each material. Likewise, discussions of structure-odor relationships are presented along with the latest research in the field. In all cases, the comprehensive bibliography accompanying each chapter enables further discovery.

Scent and Chemistry is sprinkled with literary mentions, aesthetic judgments and interesting tidbits. Did you know that fashion designer Karl Lagerfeld wears the 1922 classic *Caron Nuit de Noël* every December? Of course, the audience beyond chemists and perfumers will need a strong taste for technical details and a basic understanding of chemistry. One hopes future editions will include even more information on aroma chemicals, essential oils and perhaps an index connecting materials with the fragrances in which they are used. However, this is just a wish list, and it in no way detracts from the conclusion that *Scent and Chemistry* is a worthy successor to Ohloff's volume and a valuable addition to the bookshelf of any perfume professional.

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