Report on the International Conference on the Psychology of Perfumery

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The Second International Conference on the Psychology of Perfumery was held on July 22-26, 1991 at the University of Warwick, Coventry, England. This conference, like its predecessor five years ago, was conceived and organized by two enterprising members of the University of Warwick staff: the psychologist ***Steve Van Toller*** and the biochemist-perfumer-aromatherapist ***George Dodd***. Its ambitious purpose was succinctly defined by George Dodd as advancing our understanding of the interactions between the three Ms: molecules (the olfactory stimuli), membranes (the receptors) and moods (the effects of odors on the organism). The conference provided a few reports of substantive progress towards this goal. Moreover, it offered, in 3-1/2 densely packed days, a mix of lectures, which in its diversity of subject matter, approach and (this must be said) quality, was challenging and stimulating for everyone with broad interest in the field. The smallness of the assembly (there were some 70-odd attendees in all) facilitated lively question-answer periods and debates.

The largest single group of related lectures dealt with applications of the B.E.A.M. (brain electrical activity mapping) technique to humans responding to olfactory stimuli. It included the reports by ***Steve Van Toller*** and ***Martin Kendal-Reed*** on the work in progress at Warwick University. Kendal-Reed's work on 12-week-old infants showed highly developed brain responses to food odors even at this tender age and provided support for the view that in the newborn, the chemical senses are the most developed ones and that visual and auditory dominance only comes later.

Tyler Lorig (Washington and Lee University) showed in an ingeniously designed experiment that the differences in brain electrical responses to lavender and jasmin which were found by Torii and his coworkers at Tokyo University and which had been interpreted by them as indicating a direct action of the odor stimulus upon the central nervous system, can also be caused by expectations (cognitive factors). However, not all odor effects involve cognition. A synthetic musk at below-threshold levels (where cognition is ruled out) caused a significant reduction in brain alpha-wave activity and poorer(!) performance in a task that required concentration. ***Gerd Kobal*** (University of Erlangen) was able to show in a masterfully controlled set of experiments that the hedonic responses to vanillin and to hydrogen disulfide are, in all likelihood, not cognitive. He also showed that olfactory perception is nondirectional while the trigeminal response which often accompanies it is directional. Kobal's finding of different response latencies in the left and right halves of the brain to pleasant and unpleasant olfactory stimuli should encourage future work in this area and may lead to improved understanding of hedonics at the brain anatomical level.

H. Sugano (University of Occupational & Environmental Health, Kitakyushu, Japan) reported on exploratory studies using some unusual techniques for measuring effects of fragrance stimuli including the recording of muscular microvibration and single photon emission topography.

Several papers dealt with odor perception among hitherto neglected age groups. ***Hilary Schmidt*** (University of New Jersey and Monell Chemical Senses Center) reported on a series of tests involving infants' playing behavior with scented and non-scented toys. Each new experiment offered new surprises, especially with respect to sex differences in behavior. ***Susan Schiffman*** (Duke University) reported on odor perception among the aged. On average, thresholds among respondents in their 70s were about eight times higher than of respondents in their 20s, and there is clear evidence that adaption is stronger in old people. However, the reduction in perception varies widely for different odor stimuli. This suggests both a need and an opportunity for specific perfumes for products for the aged. The decline of odor sensitivity among the aged was confirmed by ***Charles***

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Wysocki (Monell Chemical Senses Center), based on an analysis of the responses of the National Georgraphic odor survey. This survey also clearly showed that for all odors, in all parts of the world, females gave higher intensity ratings than males to the same stimuli. They are also better able to correctly identify odors and they rate their own sense of smell (with full justification) higher than do men. Wysocki also reported on findings in the area of specific anosmia and cross adaptation to androstenone, musk and related odorants. There is a strong genetic component in anosmia to androstenone, with evidence that the X chromosome is involved. Although shared anosmia for androstenone and galaxolide (a synthetic musk odorant) is often found, there is no cross adaptation between the two. There is, on the other hand, distinct cross adaptation between galaxolide and other synthetic musks as well as between androstenone and synthetic analogues.

Howard Ehrlichman (City University of New York) reported on an experiment which showed that pleasant and unpleasant odors can affect performance in a creativity task (remote associates tests): smelling a pleasant odor, students performed significantly better. Smelling a pleasant odor also led to significantly more positive ratings in the judgement of slides of men's and women's faces and more positive ratings of "neutral" words than did an unpleasant odor. This difference, however, was apparent only among those respondents who had been found to be "field dependent," i.e., strongly affected in their judgement by environmental factors, as measured by the Goodenough Rod and Frame test. Ehrlichman's study suggests that the field dependent/field independent distinction may be highly relevant to studies on the mood effects of odors.

Several papers dealt with fragrance effects at a clearly cognitive level, i.e., with the role of odors as semiochemicals. ***Eric Albone*** (Clifton College) spoke about "mammals and semiochemicals." The observation that lion dung is a repellent to deer also in Europe where lions have been extinct for thousands of years raises intriguing questions about inheritance of learned responses. ***John Labows*** (Colgate-Palmolive) presented a review of human body odors as semiochemicals. ***Margret Schleidt*** (Max Planck Institute) reported on a cross cultural study which showed surprising similarities between Germans and Japanese in the relevance and affective values of natural, human and environmental odors.

Classical aroma therapy was represented within the conference only by one talk by ***John Kusmerak***, aromatherapist, who, at very short notice, substituted admirably for the scheduled speaker on the subject. The opposition between the analytical-experimental approach of the brain physiologists and behavioral psychologists on the one hand and the wholistic treatment approach of the aroma therapist in which the effects of the odor stimuli is inextricably mixed with expectations, physical treatments and the therapist-patient interaction remains as profound as ever.

George Dodd (University of Warwick), the biochemist-turned-aroma therapist, valiantly attempts to bridge the gap (e.g., in an on-going experiment in which the use of natural and synthetic odor materials in an aroma therapeutic setting are compared). He is, however, realistically aware of the depth of the chasm.

Three of the speakers came from the fragrance industry, ***Hans-Otto Schmidt*** (Haarmann & Reimer) spoke about findings in an extensive ongoing international study linking perfume preferences to personality and mood tendencies and lifestyle preferences. ***Gerald Landers*** (Brand Positioning) reviewed recent perfume history in the light of fashion trends and pleaded for closer interaction between perfume houses and fragrance marketers. ***Stephan Jellinek*** (Dragoco) presented a novel perfume classification which, in contrast to the classifications currently in use, is based on consumer perceptions of fragrances.

Three colorful talks which were even more remote in their subject matter from the central theme of molecules-membranes-moods rounded off the program and added to its intellectual stimulation. In his introductory lecture to the conference, ***Hans Eysenck*** (University of London) spoke about "The Psychology of Personality and Esthetics," concentrating largely on visual esthetics and mentioning odor only in passing. The "introverted/extroverted" personality dimension, to which he assigns great importance, plays a key role also in the study upon which Hans-Otto Schmidt reported; it is, however, controversial among other workers in the field of odor psychology. The archeologist ***John Steele*** (Lifetree Aromatix) presented findings from the ancient Egyptian kingdoms and from a tribe of South American Indians to exemplify two cultures in which odor played a far more central role than in our current western civilization, showing that there are alternatives to our visually and auditorially dominated perception of reality. ***Charles Bigelow*** (Stanford University) provided a sparkling review of the typography of perfume advertising, drawing attention to a dimension of fragrance marketing which is often overlooked.

The organization of the conference was excellent: efficient, yet relaxed and informal. There was a strong sense of participation and commitment among the attendees. In spite of the variety of the subject matter, nearly everyone was present at almost all the lectures. Perhaps the greatest benefit the conference provided was to bring together, in the intimacy of a university campus during summer recess, a group of people of widely varying backgrounds linked by their common interest in that inexhaustible subject, the psychology of odors and perfumes. Let us hope that some five years from now, Steve Van Toller and George Dodd will again have the enthusiasm, the energy and the opportunity to organize another POP conference. The proceedings of the 1992 Conference are scheduled for publication next year.

Reference

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