Section One

A Specific Type of Cognition

Olfactory experience is difficult to define: From ineffable to unmentionable, it seems to remain in the limbo of cognition. More than any artist's work, the competence of the perfumer is a challenge for explication. The few artists who are able to communicate in writing about their creative processes are mainly plasticians (painters and sculptors), musicians, and, of course, writers. As regards chemical senses, the writings are extremely rare, and the very status of "artist" is not easily conferred. As an example, Edmond Roudnitska faced a difficult task in his effort to have olfaction accepted into the realm of aesthetics.

In Chapter 1, Annick Le Guérer proposes an explanation for that misappreciation that has to do with the history of Western philosophy: Our philosophical heritage denies any nobility to olfaction and taste, as compared with the other senses, and depreciates them almost systematically. Psychoanalysis has cited that fact as evidence that civilization can be built only if there is repression of smell. However, as Le Guérer points out, the history of psychoanalysis itself is marked by fantastic representations of the nose and its functions within the relationship linking Freud and Fliess – their unconscious *montre son nez* in the learned conception of smell.

Moving away from the neurophysiology of smell, André Holley, in Chapter 2, looks into the perfumer's knowledge, which remains largely secret and intuitive. What is the difference between expert and novice, artist and amateur in the cognitive treatment of odors? How does plain emotion become an aesthetic feeling, and which departure from the common meaning of "odors" does this imply? These questions require an understanding of how the composer perceives, recalls, and imagines odors and whether abstract representations and rules are superimposed on ordinary perception or replace it. Whereas audition research has revealed differences between musicians and non-musicians, similar research on expertise for smell has yet to be done: Is there an absolute sense of smell, as there is an absolute sense of pitch?

Egon Peter Köster has had long practical experience in research on preferences and olfactory memory in various industrial applications of the chemical senses. His research has been characterized by this pragmatic point of view, orienting him toward the implicit, emotional, and infra-attentional functioning of this modality. In Chapter 3 he examines here the differences between the chemical senses and the "far senses" and questions the relevance of many marketing surveys: "People will eat what they like, but do not know what they like, and certainly not why they like it."

1

Olfaction and Cognition: A Philosophical and Psychoanalytic View[1]

Annick Le Guérer

"Are you not ashamed to believe that the nose is a means to find God?" wrote Saint Augustine (1873) in his refutation of the Manichaeans in 389 C.E. Fifteen centuries later, Sigmund Freud, addressing the members of the Vienna Psychoanalytical Society, stated that "the organic sublimation of the sense of smell is a factor of civilisation" (Freud, 1978, p. 318).

These peremptory opinions expressed by the Christian philosopher and by the founder of psychoanalysis offer little support for any investigation into the sense of smell as a tool for knowledge. Furthermore, they are typical of an attitude widely held by both philosophers (Le Guérer, 1987) and psychoanalysts (Le Guérer, 1996). There are many possible explanations for the mistrust – indeed, the rejection – with which both groups have treated this sense, but all of them converge on its animal nature.

Philosophers have often slighted and underestimated the sense of smell. Plato (1961) and Aristotle (1959) maintained that the pleasures it provided were less pure, less noble, than those offered by sight and hearing. Aristotle also found it lacking in finesse and discernment. Descartes (1953) regarded it as vulgar, and Kant (1978) thought it a coarse sense and one best left undeveloped, leading as it did to more unpleasant experiences than pleasant ones. Schopenhauer (1966) considered it an inferior sense; Hegel (1979) eliminated it from his aesthetics. And at the beginning of the twentieth century, the German philosopher Georg Simmel (1912) went so far as to term it the antisocial sense par excellence. Animal, primitive, instinctive, lust-provoking, erotic, selfish, irrelevant, asocial, dictatorial, imposing upon us willy-nilly the most painful of sensations, making us unable to escape its subjective solipsism, incapable of abstraction or of leading to any artistic ends, not to mention thought – the philosophical reasons for denigrating the sense of smell are numerous (Le Guérer, 1988, pp. 225–93).

Why Such Negativity?

If we approach the question analytically, we find two basic approaches. The first derives from the hierarchy often established between the distanced, noble "intellectual" senses (sight and hearing), which require some external medium (e.g., the air), and the proximity senses, which are more physical, animal, and sensual (taste and touch) and which have as their medium the body itself, the flesh. Smell exists at the junction between these two groups and is regarded as an intermediate sensorial faculty. We find this basic belief in the works of many thinkers, from Aristotle to Jean Jaurès (1891), including Saint Thomas Aquinas, Hegel, and Cournot, who variously described the sense of smell as ambiguous, bastard, vague, and nonautonomous.

The second approach concerns the paucity of the olfactory vocabulary. In his Timaeus, Plato dealt with the difficulty of arriving at any precise description of odors. In his view, the only distinctions that can be made with any validity are affective, that is, based on the pleasure or displeasure to which they give rise. The list of subsequent philosophers making similar distinctions is a lengthy one. The sense of smell was regarded as a dead end, incapable of abstraction. Henning (1916, p. 66) noted that "olfactory abstraction is impossible. We can easily abstract the common, shared color – i.e., white – of jasmine, lily-of-the-valley, camphor and milk, but no man can similarly abstract a common odor by attending to what they have in common and setting aside their differences." Simmel (1912, p. 3) noted: "The difficulty of translating smell impressions into words is far different from that of translating the impressions of sight and hearing. They cannot be projected on an abstract level." Dan Sperber (1974, p. 128) wrote that the only possible way to classify smells was in relation to their sources (the smell of roses, or coffee with milk). In saying that, he was in agreement with many neurophysicists (Holley and MacLeod, 1977, p. 729): "Only the source of an odor is truly apprehended as an entity, to the point that we are unable to give a name to the latter save via the former. We lack the rigor of language required for more precise description and are forced to fall back on metaphors." [2]

This perpetual problem of abstraction has meant that smell has come to be viewed as a primitive, archaic, *needed* sense, one more important to sensory pleasure than to knowledge. Lacking in objectivity, and making us aware not of true distinctions but rather of elements that are "complementary," "congenerous," and "convenient" to us – making us aware, in a way, of ourselves – the sense of smell therefore fails to afford us, in the words of the philosopher Maurice Pradines (1958, p. 513), "any true knowledge, either of the world or of ourselves." Cournot (1851, p. 121) asserted that the sense of smell is too subjective to provide any precise information about external objects: "A smell, like a taste, is

an affect of the feeling subject that affords no representation, that in and of itself neither implies nor determines any knowledge of the thing sensed . . . . What is incontrovertible is that the sense of smell alone can provide no notion of the outer world and that, in a normal man, it adds no theoretical or scientific knowledge of the outside world . . . scientific advances would in no way be hindered were this sense to be done away with completely."

Further, the sense of smell has been regarded as a hindrance to scientific progress. Smells, because of their direct and intimate nature, their insinuating, penetrating strength, and their permeability, are treated as active realities, as the surest messengers from the real world. This view is buttressed by the belief that smell contains the principle, the virtue, of any substance, a belief that the philosopher Gaston Bachelard (1938, p. 115) has termed "substantialist" and one that has often led scholars astray. Thus, for a long time, ozone failed to be identified as a gas because it was believed to be the odor emitted by electricity.

Unlike sight and hearing, which are viewed as higher senses and are endowed with a rich and specific vocabulary, the sense of smell has been regarded as incapable of serving as the basis for any art form. That view can be attributed to a long philosophical tradition wrought by many great thinkers – Plato, Kant, Hegel, Schopenhauer, Bergson – whose opinions have weighed heavily on all aestheticians.

However, there have been philosophers, though in fact very few, who have taken exception to the categorization of olfaction as somehow disreputable. The movement toward rehabilitation was begun by the eighteenth-century Sensualists, who, in opposition to the intellectualizing Philosophes of the seventeenth century, vaunted the importance of "feeling" as a part of knowledge and maintained that the sense of smell had been unjustly disparaged in the past. According to La Mettrie (1745), for example, all ideas derive from the senses, and Helvétius (1774, p. 135) went so far as to state that "to judge is to feel."

The famous example of the statue imagined by the Abbé de Condillac symbolizes this program of reevaluation. To explain how perceptions are assimilated to produce understanding, he imagined endowing a statue with each sense separately, and he began with the sense of smell because it supposedly was the one that made the least contribution to knowledge and understanding. Diderot (1955) went even further and stated (without demonstration) that the sense of smell was capable of abstraction. Rousseau (1969) considered it to be the sense of the imagination and of love; pity the man, he wrote, so insensitive as to be unmoved by his mistress's odor.

In the nineteenth century, the sense of smell found defenders among philosophers who set out to rehabilitate the role of the body in the search for knowledge. The German philosopher Ludwig Feuerbach (1960) was an advocate for the

importance of the sense of smell. He declared that it was as capable as the sense of sight of rising above animal needs and that it could make spiritual and scientific contributions to both knowledge and art. Feuerbach condemned those thinkers who found it necessary to reject the importance of the sense of smell in order to improve their thinking: Without a "nose," their theories were condemned to emptiness.

It was Nietzsche, however, who spoke out most strongly against those who denigrated the sense of smell. Whereas Feuerbach attempted to revalorize the sense of smell by making it more spiritual, more intellectual, Nietzsche, on the contrary, lauded its animal nature: The refusal of the majority to acknowledge the sense of smell as a means for attaining knowledge was rooted in an absurd rejection of man's animal nature, in addition to revealing an exaggerated esteem for logic and reason. The utility of the sense of smell resides in this animality, obviating the need to employ language in order to advance thought and understanding. It is, in fact, the most delicate instrument available to us. Nietzsche's apologia took the shape of a metaphor. "Flair," for him, was a real tool for psychological and moral investigation. Its links to instinct, judgment, and mental perception would make it a tool for the psychologist, who is guided by intuition and whose art consists not in reasoning but in "scenting out."

An accomplished psychologist, Nietzsche (1971, p. 333) claimed to have an especially remarkable flair that enabled him to read people's hearts and souls and to sniff out falsity and illusion. "I am the first to have discovered the truth by virtue of the fact that I am the first to have sensed, to have had the flair to scent out, falsehood as falsehood." As the sense most attuned to truth, smell, in its search for veracity, overturns the cold logic that is the product of the struggle against the instinctual and draws on the sure sources of the animal instincts that endow the body with such great wisdom. Above and beyond its basic function, therefore, the sense of smell assumes the function of a "sixth sense," the sense of intuitive awareness. All of the cognitive importance with which Nietzsche (1971, p. 333) endows this unjustly despised sense is expressed in this statement: "All my genius is in my nostrils."

However, Nietzsche's defense of the sense of smell did not have any lasting effect, and the few subsequent attempts to plead on its behalf have not been noteworthy. The most effective damper on such efforts came from psychoanalysis, which has played an important role in the cognitive devaluation of the sense of smell.

One might have expected the psychoanalysts, given their awareness of their patients' sexuality, to have undertaken a closer examination of this sense, which is so intimately bound up with a person's sensual side. Such, however, has not been the case, and the situation may perhaps be explained as follows: The story of the

sense of smell with regard to psychoanalysis itself bears the mark of repression. Freud's olfactory investigations, which were undertaken at a time when hygiene and an odor-free environment were becoming increasingly important and during a period in which the scholarly discourse on the sense of smell tended to devalue it, were conducted within the framework of his transferential relationship with Fliess, in which the nose (frequently purulent) and the repression of concerns about certain olfactory events each played a considerable role (Le Guérer, 1996).

Freud had met the Berlin otorhinolaryngologist Wilhelm Fliess in 1887 at Vienna and had become fascinated by the wide-ranging scientific views expressed by that brilliant and original thinker, views in which the nose played a major role (Freud, 1985). Indeed, Fliess (1893, 1977) believed that he had discovered the existence of a neurosis linked to the nasal passages. He also believed that edemas of the nasal mucous membrane and infections of the sinuses and nasal turbinate cartilage were at the root of a whole group of symptoms: migraine headaches, neuralgias, and functional disorders of the heart and of the respiratory, digestive, and sexual systems. According to Fliess, all of these ills, notwithstanding the marked differences between them, shared one common characteristic: They could momentarily disappear when the appropriate nasal areas were anesthetized with cocaine. Both men suffered from serious rhinological problems, which further increased their interest in that organ. Fliess managed to persuade Freud that Freud's nasal problems were the root causes of his heart condition. In an attempt to correct that, Freud allowed Fliess to operate on him on several occasions. Indeed, they were joined by the nose, so to speak, and that connection was strengthened by their use of cocaine. Present throughout the course of their intellectual exchanges and a part of their daily lives, their fixation on the nose was to become even more pronounced as the result of an unfortunate surgical procedure.

In February 1895, Freud asked Fliess to perform an operation on one of his patients, a hysterical young widow named Emma Eckstein. Fliess came from Berlin to Vienna and performed the procedure. During the same visit, he cauterized Freud's nasal turbinate bones (Freud was suffering from acute rhinitis). After Fliess's departure, however, the young woman's nose remained extremely painful and began to give off a foul odor. Freud summoned another specialist to Emma's bedside, and the new doctor saw what appeared to be a string in the young woman's nasal cavity. He pulled on it and drew out what – to everyone's surprise – turned out to be a piece of surgical gauze nearly 50 cm long (∼19.5 inches). The girl, streaming blood, promptly lost consciousness. The hemorrhage was finally stemmed, but Freud was so shocked at Fliess's professional negligence and his patient's alarming state that he became sick and was forced to leave the room and revive himself with a shot of brandy.

That failed operation was to play a fundamental role in psychoanalytic theory, for it was the source for the well-known dream known as "Irma's injection," in which the sense of smell is of prime importance, and it became the paradigm for Freud's theory of the dream as wish fulfillment. At the time, Freud greatly needed Fliess's friendship and support, and he did everything in his power to retain his admiration for Fliess and repress his doubts. That process of repression is especially clear in the dream, in which the Fliess character appears to be esteemed and guiltless. It is also much concerned with the noses of the three protagonists involved in the minor tragedy that had occurred at Vienna a few months earlier. In my view, it was within this transferential relationship with Fliess – an otorhinolaryngologist, the author of a work on the relationship between the nose and sexuality, and a man deeply involved in an incident featuring an evil-smelling nose – that Freud came to conceive his theory of smell, which is centered around the notion of repression (Le Guérer, 2001, p. 460). Indeed, on 14 November 1897 Freud wrote to Fliess as follows: "Memory now comes up with the same stench as an actual object. Just as we turn away in disgust from evil-smelling objects, so too do the preconscious and our conscious awareness turn away from the memory. This is what we call repression."

At the turn of the twentieth century, the olfactory observations cited in medical and scientific discourse tended, for the most part, to have a negative tone. Indeed, the great naturalist Charles Darwin (1971) considered that the sense of smell, so important to most mammals, was, in humans, merely a weakened and rudimentary function, a holdover from the distant ancestors for whom it had been extremely useful. Subsequently, the majority of contemporary psychiatrists and sexologists would connect the sense of smell not only to animality but also to psychopathologic conditions. The famous Austrian psychiatrist Richard von Krafft-Ebing (1931) and the German sexologist Albert Moll, as well as Charles Féré (1974) in France, all felt that the sense of smell had little to do with any normal sexuality. On the other hand, certain mental illnesses seemed to reveal a close connection between the sense of smell and sexuality.

Freud's theories were influenced by all of those ideas, but he was to go deeper into the question by explicitly positing an indissoluble link between repression and the almost universal contempt for the olfactory sense.

According to the founder of psychoanalysis, both our sense of smell and our sexuality were altered profoundly when our distant ancestors abandoned walking on all fours and adopted an upright position. When the nose was elevated higher above ground level, the once-dominant sense of smell weakened, the sense of sight moved to the fore, and hitherto-exciting olfactory sensations gradually came to be considered disgusting. That virtual obliteration of the sense of smell led to a broad-based repression of sexuality, though it facilitated the founding of

families and the development of civilization. In short, when humans broke away from their animal nature, that entailed a dual abandonment: withdrawal from the sense of smell and from sexuality. The virtual disappearance of the sense of smell during phylogeny is a model of what occurs during ontogeny (Freud, 1961).

As a result, acute olfactory sensitivity came to be viewed as an archaic and even pernicious trait, revealing a fixation on anal sexuality. According to Freud, it persisted only in animals, in savages, and in very young children, who were not disgusted by excremental odors: Education teaches the child to shun such smells. The result held repression of the sense of smell and of anal sexuality. To have a keen sense of smell was seen as a symptom of latent animality, a failure of the socializing process.

Freud, in proposing a direct relationship between the development of civilization and the virtual eradication of the sense of smell, was implicitly suggesting that the olfactory sense was a hindrance to knowledge and aesthetics. Following in his footsteps, many psychoanalysts came to view it as an archaic, animal faculty that would have to be repressed if people were to function in society. Such was the view of Lacan (1973, pp. 61–2) when he noted that repression of the sense of smell in humans "has a great deal to do with [their] access to the dimension of the Other." It was also the view of Françoise Dolto (1980, p. 342), who agreed with the philosophical tradition that deemed the sense of smell inferior because it was incapable of abstraction. "Culture," she stated, "is speech and obviously not smell."

Nevertheless, some psychoanalysts, like Nietzsche before them, have attempted to rehabilitate the sense of smell by demonstrating that it is capable of leading to intuitive knowledge. For example, the Hungarian psychoanalyst Sandor Ferenczi (1974) sought for hidden links between the sense of smell and thought processes. Like animals, some humans may have a gift for "sniffing out" repressed feelings and tendencies. An extraordinarily subtle sense of smell and a powerful olfactory imagination may underlie the performances of spirit mediums, who may be sensitive to the odors emanating from certain people. Ferenczi (1985, p. 142) went so far as to state that "a large part of what has hitherto been regarded as an outré, occult or metaphysical performance may have some psycho-physiological explanation."

Owing to its ability to enable people to "sniff things out," the sense of smell plays a large role in transferral and countertransferral. Instances of sick persons who gave off extremely unpleasant odors when experiencing attacks of repressed rage made Ferenczi aware of the semiotic importance of odors: They could replace speech and reveal affects that might be hidden in social communication. The psychoanalyst went on to discuss the case of a patient who, when in a state

of repressed anger, emitted highly unpleasant odors, "as though, lacking other weapons, she was attempting, like certain animals, to keep people away from her body by frightening them with these emanations of hatred" (Ferenczi, 1985, p. 141).

More recently, Didier Anzieu had an experience with the cognitive value of olfactory messages in psychoanalysis. His patient, whom he called Gethsemane (in reference to the Mount of Olives, where Jesus sweated blood), suffered from excessive and very malodorous sweating. The psychoanalyst, repelled and almost paralyzed by the stench, which was made even more unpleasant by the eau de cologne his patient liberally applied, probably to mask it, was unable to cope with this particularly intense sensory manifestation. He began by setting up an early countertransferential resistance to the manifestation, not verbalized but yet "the most pervasive factor in the session," which he considered devoid of any "apparent communicative validity" and as falling outside the purview of psychoanalysis. Anzieu (1985, p. 182) thus despaired of interpreting the condition, the treatment languished, and boredom set in. Gethsemane, continuing to exteriorize his anxiety and conflicted feelings in this unique manner, went on smelling worse and worse.

One day a patient protested about the fetid atmosphere in Anzieu's clinic. Anzieu shook off his lethargy and realized that he had almost reached a point at which he himself was no longer able to "sense" Gethsemane, "with all the meanings that that word entails." "Might it not be a transferral neurosis simultaneously concealing and expressing itself through these bad-smelling – and, in my case, slyly aggressive – emanations?" he asked, now alerted. But how to discuss such nauseating emanations without seeming inconsiderate or hurtful? Because he could find no psychoanalytic theory to guide him in answering that question, the analyst ventured to make "a compromise and fairly general interpretation" centered on the senses that, after several sessions, finally uncovered a memory from the past connected with smell.

Gethsemane had had a difficult birth, during the course of which his flesh had been lacerated and there had been considerable bleeding. He had been kept alive by the care of a slatternly wet nurse, who had taken him into her own bed. At the same time, his mother, an extremely well-groomed woman, was liberal in her use of eau de cologne. "Thus," concluded Anzieu (1985, p. 184), "the two contradictory odors with which he filled my consulting room represented a fantasy attempt to recreate in his own flesh the flesh of his wet-nurse and his mother. Did this mean that he had none of his own?" By becoming aware of his conflicted feelings, rather than sublimating them in the form of perspiration, Gethsemane, unconsciously and without suffering, began to show marked progress, and his bad odor gradually became less noticeable. The importance of the sense of smell