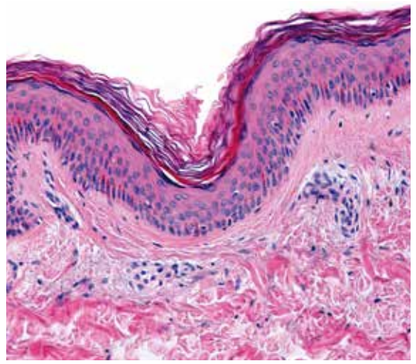
DESCRIPTIVE CONTENTS

CHAPTER 6

HOW THE MOTOR SYSTEM WORKS

BRINGING WINE TO YOUR MOUTH FOR INGESTION

Bringing wine to our mouth is an action that may seem of little importance, but this journey is full of somatosensory stimuli. These stimuli may be much less evident than with sound, but depending on the weight, shape, and color of a tasting tool, its perception will be different. Even the degree in which your head is tilted when drinking can influence perception. Therefore, it is necessary to explain the anatomy and workings of the arm to see how the act of lifting a glass is codified into nerve impulses and how its journey to the mouth affects perception. This chapter is complex, because not only does it deal with the largely unknown somatosensory system, but it is also necessary to combine it with the sense of balance, which is essential if we are to be aware of our spatial position and the movement of our head.



CHAPTER 7

HOW SIGHT WORKS

DETECTING LIGHT AND TURNING IT INTO REALITY

The visual phase is one of the most persuasive when it comes to wine. But why does wine have color? Furthermore, what is color, and how can we know which compounds in the wine are responsible for its color? After we deal with these questions, we will answer much more specific questions, such as why wine changes its color as it ages. We will also discover whether the color of wine can supply complementary information. Knowing what is color involves knowing the anatomy and workings of the eye, as well as understanding how light sensations are generated and how they are turned into perceptions when they reach the visual cortex.

CHAPTER 8

WINE TASTING: THE VISUAL PHASE

After understanding hearing, the motor system, and sight, we can delve into the stage of wine tasting where they play a role, the first of which is the visual phase. Here, we will begin to describe the wine, interpret its color, clarity, the aspect of opacity and rim variation, even its viscosity or, alternatively, fluidity. And when dealing with a sparkling wine, the presence of bubbles. Each and every one of the attributes mentioned will be accompanied by descriptors that tasters can use to provide as much information as possible during this stage.

CHAPTER 9

HOW SMELL WORKS

VOLATILE COMPOUNDS THAT IMPACT RECEPTORS

This chapter focuses on volatile compounds with odorant potential; in other words, chemical compounds that evaporate with ease, turning from the liquid stage to the gaseous state and imparting an aroma when they are perceived. All odorant compounds are volatile, but, fortunately, not all volatile compounds are odoriferous. Few senses arouse greater curiosity in us than the sense of smell: Do primary odors exist? Are there pure odors? What is the smallest amount required to perceive a smell? Do wines have essential aromas? All of these questions will be answered as we explore the anatomy and workings of the nose. We will even delve into the mechanisms of air circulation through the nasal cavity during inhalation (orthonasal pathway) and exhalation (retronasal pathway). Given its interest, the process in which the detection of an odorant compound is converted into a nerve impulse is central to this chapter.

CHAPTER 10

WINE TASTING: THE NASAL PHASE

After the visual phase, we will turn our attention to the second phase: the nasal phase. This is certainly the most hedonistic phase, because it connects with our emotions and memories with incredible ease. Step by step, we will explore how this happens and what interpretations are made: the condition of the wine, frequent flaws, aromatic intensity, complexity, aromas and their families, the ordering of aromatic perception, and the state of a wine's evolution.

CHAPTER 11

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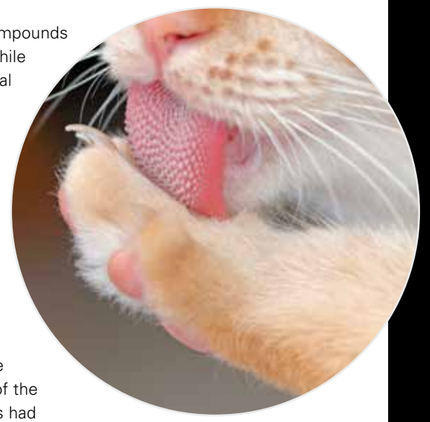
HOW TASTE WORKS

RECEPTORS THAT DETECT COMPOUNDS DISSOLVED IN SALIVA



Like smell, taste is a chemical sense, which means that it detects chemical compounds that are converted into taste perceptions. The difference lies in the fact that, while smell captures compounds in a gaseous state, taste works by trapping chemical compounds that are dissolved in a liquid. Three concepts will be clear by the end of this chapter. The first is that there are more than five basic tastes; the second is that a chemical compound can evoke several tastes; and the third is the consequence of the first two—under normal, everyday conditions, there are no pure tastes, which is why a salt, such as potassium, evokes a taste that is both bitter and sour at the same time. Although taste sensors are located throughout the oral cavity and even in the esophagus, the tongue is the principal gustatory organ, because of the large number of taste buds it contains. Structures on the tongue, known as papillae, contain groups of taste buds, which are, in turn, made up of clusters of sensory cells. Taste, therefore, is a sense with a sensory organ that is more complex than it seems. Unfortunately, this complexity continues to be evident during the stage when taste sensations are transmitted to the brain, and even in the workings of the gustatory cortex. In fact, it reflects the extreme importance that this sense has had during the evolution of all living things.

CHAPTER 12

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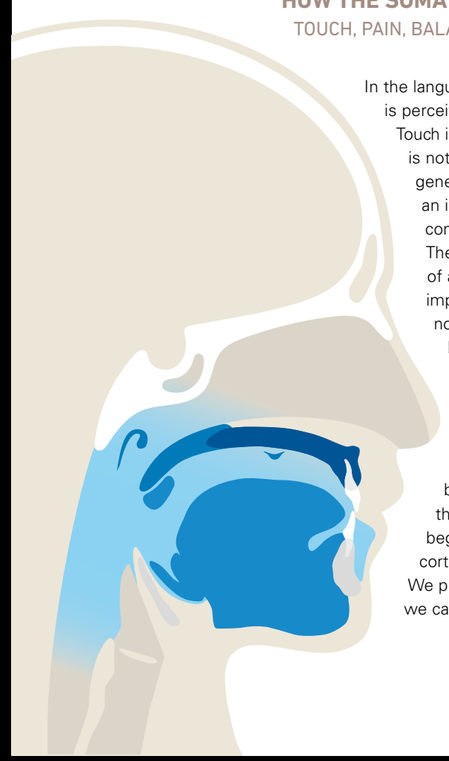
HOW THE SOMATOSENSORY SYSTEM WORKS

TOUCH, PAIN, BALANCE, KINESTHESIA, AND CHEMICAL RECEPTORS



In the language of wine, we tend to refer to touch as the sense through which texture is perceived. Unfortunately, this simplification is far removed from scientific reality. Touch is nothing more than a set of stimuli to which others must be added. This is not a quirk: All sensory stimuli are perceived in shared sensory organs and generate sensations that are the result of their combination. Perceptions are an integrated sum of all of them. Explained in simpler terms, these stimuli are completely inseparable, which makes such perceptions difficult to describe. They are too complex, too rich, too much of everything. For the philosophers of ancient Greece, this was the least important sense, but also the most important: It was necessary to have this sense to be considered an animal, not inanimate or vegetable. If we think about it, we can live if we are blind, but can we live without our somatosensory system? We should understand touch as the haptic sense, where temperature, pain, kinesthesia, and chemical receptors work together to create a perception of a wine's weight, viscosity, astringency, and body. The mouth is the space with the greatest responsibility over this system, but it is not the only one, because we have somatosensory organs in many different parts of our body. In fact, they are also found in the nose and contribute to enhancing the nuances of olfactory perceptions. This complex and illustrative chapter begins by exploring the sensory organs before arriving at the somatosensory cortex of the brain through the different nerves that transmit these sensations. We provide an exhaustive classification and ordering of all these stimuli so that we can stop talking about only touch once and for all.

CHAPTER 13

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WINE TASTING: THE ORAL PHASE

When wine enters the mouth, a vast amount of sensory information is received that must be processed, understood, and, if possible, enjoyed. To achieve this, it is essential to have memorized a tasting system that is both hierarchical and parameterized. Only in this way can perceptions be sequentially managed and assessed. It begins with sapid perceptions of sweetness, sourness, saltiness, bitterness, umami, oleogustus, and kokumi, before progressing to perceptions of shape and volume, dryness and astringency, fluidity and fatty sensations, pungency and alcohol integration, and effervescence in the case of a sparkling wine. Next are the retronasal aromatic perceptions, the perceptions of hot and cold. These are followed by structure, weight, body, and texture. After this comes the flavor progression in the mouth (the attack, midpalate, and finish), followed by balance and ending with persistence, or length. For each phase, we offer a precise vocabulary and explain how each should be interpreted.

CHAPTER 14

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WINE TASTING: CONCLUSION

This is the fourth and final phase of wine tasting. The conclusion is the climax of sensory analysis. Unlike the other phases, sensory perception here is on equal terms with the other cognitive processes introduced in chapter 4. Only in this way can a taster go beyond a hedonistic assessment based on a "I like / I don't like" dichotomy and explain, with the greatest possible objectivity, why a certain wine has a particular flavor. This judgment would be of the wine's intrinsic quality. However, if the wine tasting is held within the scope of the fine-dining restaurant, other extrinsic aspects should also be judged, such as the wine's value for money, its evolution, aging potential, and if it will fit in with the restaurant's offering. This chapter concludes with a series of tasting sheets that serve as an overview of all the phases and provides a basic vocabulary to help complete a wine tasting successfully. In other words, it is the Sapiens of Wine method of wine tasting.