

Chapter 12

Producing a Mental Representation of a Cup of Sake:

A Comparison of Experimental Methods and a Tool for Generating Cognitive Content

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ABSTRACT

In this chapter, methodologies for producing a mental representation of a cup of sake are introduced. Mental representations of taste are often vague and fuzzy in comparison to audio or visual images. On the other hand, some individuals, such as sommeliers or tasters of sake, are able to readily formulate a representation of the taste they experience. How can the average person produce words or other types of mental representations in such a situation? In this chapter, the author presents three methodologies for eliciting mental representations of taste: a new supporting tool for verbalizing an image of taste, an experimental method for testing a verbal and visual image for taste, and an experimental methodology for producing a free drawing representation of a cup of sake.

INTRODUCTION: THE TRAINING OF SOMMELIERS

This chapter presents several methodologies for producing mental representations of taste. To provide context, the training of sommeliers offers an interesting and useful illustrative case. Many would imagine a scene in which would-be sommeliers taste various kinds of wine and choose suitable words to describe the flavors. Indeed, there are such training programs. However, this type of exercise is normally simulated in a training program.

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The most fundamental exercise for sommeliers-in-training is to match the name and smell of fruits, vegetables, and other objects with the various tasting words listed for wines. Here, the trainee actually holds the items in her or his hands and checks the smell.

In the artificial intelligence domain, this practice might be called a “symbol grounding program.” For many (ordinary) persons, the sound or letters of “lemon” are connected instinctively to a yellow, oval shape. However, what of the flavor? Asked to imagine “lemon,” do we imagine the fresh scent of the lemon as clearly as the shape (visual image) of the lemon? Sommeliers drill themselves on the connection between such symbols and the various corresponding flavors.

As for the education or training of the sensory domains, an earlier start generally produces better results. If parents wish to have their child become an accomplished pianist, the child should be exposed to an infant music education before he/she is no older than three. Of course, this principle is not limited to the sensory domains. In sports and many other domains, the importance of early education or training is well-established.

However, the case of sommeliers is somewhat different. It’s unlikely that world class sommeliers drank wine from the age of two or three. Few future sommeliers are committed to wine tasting in their infancy; yet experienced sommeliers are able to distinguish countless wines by taste and scent. Thus, the domain of taste may be an exception to the early education rule that applies to the other sensory domains. It seems clear that the ability to distinguish taste or flavor and to verbalize the distinction can be developed through training after one reaches adulthood.

In this chapter, three methodologies for producing a mental representation of taste are presented. They include 1) a new supporting tool for verbalizing an image of taste, 2) an experimental method for creating a verbal and visual image of taste, and 3) an experimental methodology for generating a free drawing representation of the taste of a cup of sake. These topics are discussed in turn in the sections that follow.

BACKGROUND

Of course, the ability to distinguish taste is not exclusive to sommeliers and other professionals. The question is: How do people bridge the gap between their sense of taste and the language they use to describe what they are tasting? In other words, what kinds of strategies do people employ to express something that is hard to verbalize?

In a previous study, the author proposed a multifaceted representation model for the sensory domain of taste, with a special focus on the taste of sake (Fukushima, 2018). There, the author sought to bridge the gap between the domain of taste and the domain of words. On the basis of this “first-person-singular study,” a pictorial description in combination with a verbal description was proposed as a way to achieve this goal.

When people describe taste, it is a common strategy to say such things as “it tastes *like a banana*” or “it tastes *like a plum*.” This strategy, one used even by specialists such as sommeliers, suggests that we tend to turn to a different source (“banana” or “plum” in this case) (Wilson & Stevenson, 2006). Seto (2003) collected a large number of expressions used to describe the perception of taste and smell and showed that the number of expressions describing these perceptions directly is very limited and that metaphorical expressions are used pervasively instead.

In studies investigating the relationship between sensory perceptions and linguistic expressions, the notion of metaphor has been used in a broad sense, including similes (e.g., taste like a banana), ono-

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