Plating: The Science of Plating

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Internet-based testing techniques are increasingly allowing chefs to optimize the visual presentation of their food online. This scientific approach to plating is part of the emerging field of gastrophysics, namely, the application of psychophysical testing techniques to the design of enhanced food experiences. Here, three rules of thumb concerning the preferred orientation of food on the plate that have been identified by the research are outlined, namely: (1) angular elements on the plate are preferred when they point away from the diner/viewer; (2) people typically exhibit a preference for those elements on the plate that ascend to the right (rather than to the left); (3) people also exhibit a preference when linear/rectangular food presentations are aligned along the horizontal/vertical axis, rather than when they are oriented away from these principal axes.

Introduction

In recent decades, many chefs have started to become increasingly interested in the way in which their dishes are presented (Deroy et al., 2014). Until recently, chefs would tend to rely on intuition when determining the optimum orientation in which to present the dishes served to their guests. However, given the growing realization that people really do eat first with their eyes (Spence et al., 2016), together with the explosion of interest in sharing beautifully (or surprisingly) plated dishes of food on social media sites such as Instagram’s Art of Plating (www.instagram.com/_artofplating_), it is becoming increasingly important to assess the plating of food scientifically (Spence et al., 2014). The emerging gastrophysics research in this area shows that people exhibit clear preferences for certain orientations over others as far as plating of food is concerned (Spence, 2017b).

Assessing Orientation Preferences for the Plating of Food

One of the most exciting developments in the emerging field of gastrophysics research (Spence, 2017a) has been the emergence of online testing as a legitimate, rapid, and cheap means of assessing people’s impressions/associations/expectations with visually presented stimuli, such as, for example, plates of food (Woods et al., 2015). Working together with those chefs interested in optimizing the eye appeal of their dishes, we have conducted a number of studies in which the orientation preferences of large numbers of individuals are assessed online. While such an approach can be merely exploratory in nature (i.e., involving the hypothesis-free assessment of people’s plating preferences), there are a number of aesthetic ‘rules’ that have emerged from decades of research on painting that, it turns out, can be applied to the world of plating too (Spence, 2017b). In the following sections, three such rules of thumb that the research demonstrated help predict the preferred orientation of plates of food are highlighted.

Pointing Angularity Away from the Diner

There is a literature out there showing that people’s brains typically exhibit a short-lasting fear response (e.g., in the amygdala) when angular stimuli are seen pointing towards them (Larson et al., 2009). This has been shown to translate into a slight preference for angular stimuli when they are seen pointing away from the viewer (rather than towards them). We conducted an online study with the signature dish served by chef Alberto Landgraf (from the restaurant Epice in Sao Paulo) showing a similar preference as far as the plating of food is concerned, too (Figure 67.1). The dish in question consists of red onions, tapioca, sugar cane vinegar, peanut, and fermented cream. A picture of the dish was uploaded onto the internet and people were invited to select the preferred orientation for the dish (being asked the question ‘If you were to be served this dish, how would you like it plated?’). The 1667 participants, who were paid a few cents each to take part in the study, saw the plate rotating (to avoid any bias attributable to end anchoring should a fixed initial position have been shown). As expected, the results highlighted a clear preference for the three onions arranged so as to point away from the viewer (shown by the arrow and the bulge in the line surrounding the plate).
Ascending to the Right: Preferential Orientation for Linear Elements

When there is a dominant linear element on the plate, our research highlights a preference when that element ascends to the right (rather than to the left). So, for example, Youssef et al. (2015) presented viewers with two versions of the same dish created by chef Jozef Youssef, one more round/centred and the other with a distinctive linear arrangement (Figure 67.2). These two dishes were uploaded onto the internet, and people (N = 521) were invited to rotate each of the plates into their preferred orientation. While the results revealed no clear preferred orientation for the round/centred presentation of the dish, there was a clear (and significant) preference for the ascending to the right orientation for the linear plating arrangement, and hence, that was the orientation in which the dish was served to diners at the chef’s pop-up dining events.

But why, one might ask, should the ascending to the right orientation be preferred? According to Arnheim (1974), the bottom-left to top-right diagonal appears to be ascending, while the top-left to bottom-right diagonal appears to be descending. Meanwhile, marketing research shows that product logos ascending to the right are associated with notions of activity in the mind of the consumer (Schlosser et al., 2016). However, when it comes to food, it is worth noting that our brains simulate the act of eating a plate of food even if it is seen on the internet (or on the front of product packaging). Importantly, anything that can be done to make it easier for the viewer to simulate the act of eating the plate of food tends to translate into increased liking (Elder and Krishna, 2012). Hence, the ascending to the right preference in plating might also be explained in terms of this presentation of the food being easier to simulate eating than when the same food is shown ascending to the left instead.

Orientation Preference for the Horizontal/Vertical

In the world of painting, a preference for paintings to be oriented along the horizontal/vertical axis has sometimes been reported. One might ask whether the same preference would also be observed as far as the plating of food is concerned. Evidence of a preference for food to be oriented along the main axes comes from another study in which one of chef Jozef Youssef’s dishes...
was uploaded onto the internet for people \((N = 401)\) to rotate into their preferred orientation. In this case, the lobster shown in the bowl was preferred either when oriented along the horizontal axis or else when oriented (pointing away from the viewer) along the vertical axis (Figure 67.3). Such a preference may perhaps be explained in terms of a preference for balance (Spence, 2017b).

**Conclusions**

Optimizing the visual presentation of a dish is becoming more important than ever before. While the decision concerning how to plate a dish was traditionally left up to the intuitions of the chef, an emerging branch of gastrophysics research has started to provide techniques that enable viewers to select/rate the orientation of a dish and hence, provide rapid, cheap feedback to the chef (Spence, 2017a; 2017b). Interestingly, while the intuitions of the successful chef often turn out to be preferred by the population at large, that is not always the case. While some chefs/restaurateurs may wish to orient the plate so as to maximize the diner’s willingness to pay for the food, others may wish to plate it as creatively as possible. While there is no space to cover it here, it is also worth noting that much the same approach to assessing orientation preferences for food can be used when assessing the orientation of those foods shown on product packaging (Velasco et al., 2015).

**REFERENCES**


