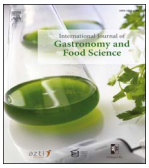

Available online at www.sciencedirect.com

ScienceDirect

International Journal of Gastronomy and Food Science 5-6 (2016) 10–16

International Journal of Gastronomy and Food Science

www.elsevier.com/locate/ijgfs

Scientific Paper

# On the importance of balance to aesthetic plating

Carlos Velasco[a,*,1], Charles Michel[a,1], Andy T. Woods[a,b], Charles Spence[a]

[a]*Crossmodal Research Laboratory, Department of Experimental Psychology, University of Oxford, UK*
[b]*Xperiment, Surrey, UK*

Received 2 June 2016; accepted 16 August 2016
Available online 23 August 2016

**Abstract**

Traditionally, the visual composition of food on a plate, or plating, has often taken place in an intuitive manner. In restaurants, plating is refined through an iterative process until the composition 'just feels right', often driven by the experienced whim of the chefs working at the 'pass'. Increasingly, though, science is starting to deliver insights that could explain, or disconfirm, the chefs' intuitions and 'rules-of-thumb'. Recently, researchers interested in the aesthetics of food have started to assess people's overall preferences when it comes to the visual composition of food on the plate, and the impact that this may have on the consumption experience. The research shows that principles borrowed from the visual arts can, to a certain extent, be applied to plating. In experimental aesthetics, one assertion that is often made is that people prefer balanced over unbalanced visual compositions. Here, we report on a series of citizen science experiments conducted at the Science Museum, in London, that demonstrate a clear preference for balanced over unbalanced presentations of exactly the same ingredients over all compositions. This preference for balanced plating is considered in light of the recent trend by many modernist chefs toward asymmetric plating (i.e., when all of the edible elements are crowded onto just one side of the dish).


*Keywords:* Balance; Plating; Food; Aesthetics; Gastrophysics

## Introduction

Traditionally, decisions concerning the plating of food in a fine dining restaurant have been based on the intuitions of the chef, who was guided, if at all, by a series of rules of thumb. One such rule, for example, is that odd rather than even numbers of items should be served on the plate (refuted in Woods et al., 2016). Another is that angular shapes should not be pointed toward the dinner. Beyond this, the composition depends mostly on the ingredients making up the flavour of the dish, and *the style* of the chef, or restaurant.

In a way, such *styles* have been guided by fashions and trends, very much like what occurs in the world of art: Ranging from architecture-inspired vertical assemblages of food back in Carême's day, through to the current trends toward asymmetrical plating (see Fig. 1) to the balanced compositions on 32 cm white plates with personalised monograms used by most of the chefs during the *nouvelle-cuisine* (still a 'mark' of that style of cooking), and indeed through to the use of serving food on bricks, stones and such so typical of the modern casual dining scene (see Abrams, 2013; Deroy et al., 2014; Spence and Piqueras-Fiszman, 2014; Spence et al., 2014; Styler and Lazarus, 2006; Yang, 2011, for reviews).

Over the last few years or so, a number of psychologists and sensory scientists have started to take an interest in systematically assessing people's preferences when it comes to different plating arrangements, giving us a hint that the *art of plating* might soon be informed by a more scientific approach (cf. Abrams, 2013). And while the intuitions of the chef often do turn out to be preferred by the public at large, this might not always be the case. Unbalanced plating, for instance, is not always preferred over more balanced compositions, and people seem to be willing to pay more for the

*Corresponding author.
*E-mail address:* carlosvelasco@protonmail.com (C. Velasco).
[1]Both authors contributed equally to the development of this work.
Peer review under responsibility of AZTI-Tecnalia.

http://dx.doi.org/10.1016/j.ijgfs.2016.08.001

Fig. 1. Examples of the contemporary trend toward asymmetrical plating, uploaded to @TheArtofPlating on instagram by users @ivan_medina93, @one_restaurant, Rodolfo Guzmán and Curtis Duffy.

centred compositions (Michel et al., 2015a). Note, however, that context may be a critical factor when it comes to visual aesthetics of food (e.g., an asymmetrical arrangement at an experimental restaurant may not mean the same as the same arrangement in a standardized fast food restaurant, e.g., Edwards et al., 2003).

Decades of research on experimental aesthetics have highlighted a clear preference for visual balance (Arnheim, 1974; Banich et al., 1989; Gordon and Gardner, 1974; Locher, 1996; McManus et al., 1993). Indeed, research on the topic of visual aesthetics has consistently shown that those items occupying central locations tend to be preferred (see Palmer et al., 2013), and that preference decreases symmetrically the further away the item is moved from the centre (Palmer et al., 2008). Whilst this has been studied in visual objects at large, it seems that it could also apply to plating. This bias in spatial composition—one that seems to influence a viewer's appreciation of two-dimensional compositions—is known as the 'Power of the Centre' (Arnheim, 1986; Palmer et al., 2008). It might explain, at least to a certain extent, why people appear to prefer their food to be presented in the centre of the plate (e.g., Michel et al., 2015b).

This 'centre bias' could also mirror the tendency for people to prefer balanced over unbalanced food compositions. Zellner et al. (2010) had their participants evaluate the visual attractiveness and taste of a plate of food in either a balanced or unbalanced arrangement. The food consisted of slices of water chestnut and tahini (that was either coloured or naturally-uncoloured). The participants in this study rated the balanced presentation as more visually attractive, though no more 'tasty', than the unbalanced arrangement. Thereafter, Zellner et al. (2011; Experiment 1) assessed the attractiveness of a red pepper hummus placed on top of a romaine leaf with three baby carrots, three cherry tomatoes, and four pita chips. Somewhat surprisingly, the balanced presentation of this food was not judged as any more attractive, though it was rated as tasting better when compared to the ratings obtained for the unbalanced presentation. In other words, the taste of the food was liked when presented in a balanced manner, but neither strongly liked nor disliked when presented in an unbalanced manner. Zellner et al. (2011; Experiment 2) went on to show that it might have been the neatness of the presentation, rather than its balance, that affected the taste of food in their studies. In this experiment, a chicken 'salad' was served atop a leaf of