

Portion sizes in dishes

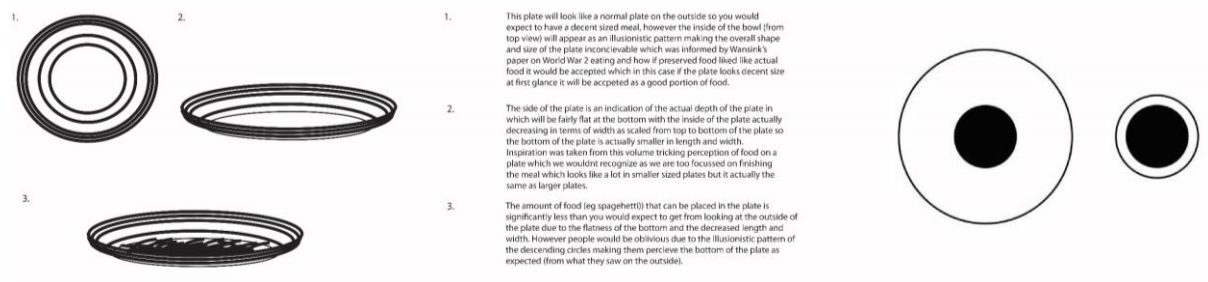
Birch, L. L., McPheee, L., Shoba, B. C., Steinberg, L., & Krehbiel, R. (1987). "Clean up your plate": effects of child feeding practices on the conditioning of meal size. *Learning and motivation*, 18(3), 301-317.

The amount of food eaten in later years can be very dependant on the amount eaten when you were younger due to eating behaviours and habits that have been developed or taught over your life which is what the "clean up your plate" reading summarizes. The constant badgering from parents telling kids to make sure they finish everything on their plate has almost distilled upon a certain behaviour enabling kids when they grow up to follow external cues as to signals for satiation rather than their own internal cues which often is the reason for overeating as they grow up. In other words, parents have almost eliminated the ability of some kids to have self-control over what they eat in which the only way they will stop eating is when they see nothing on the plate, topping the fact that their sense of fullness has a decreased effect on their satiation levels until the plate is finished due to the child feeding strategies implemented when they were young causing their brain to adapt and react to external cues like the emptiness of the plate rather than internal cues referring to their fullness. This is the reason why using volume tricking dishes to perceive the external cues of ones mind is the best route to take when trying to reduce portion sizes as their brains will be too focussed on waiting for the signal that shows them the food is over and will be less focused on how much food is actually in the dish.

Wansink, B. (2002). Changing eating habits on the home front: Lost lessons from World War II research. *Journal of Public Policy & Marketing*, 21(1), 90-99.

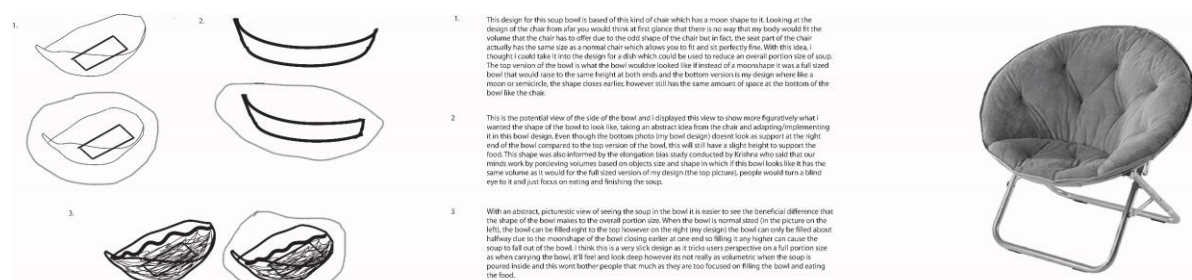
A lot of the material and foods that we have available to us now weren't available to soldiers and people back in the world war 2 period which is why rationing and preserving certain types of foods and things were essential. This paper basically talks about specifically food and the strategies that was implemented in order to make food last longer whilst still having enough food to eat every day. As a child, the talk about always eating more as you are still growing distilled upon children keeping them to the accustom of eating lots when they grow older potentially causing the ability to overeat without them realizing. The paper shows how 'reducing barriers to consumption' in the world war 2 period tricked people into eating volumes of food in which they though they expected but in fact was complete replicas in order to compensate for the lack of resources they had. To implement this, food that would mimic the look, smell, and taste of the real dishes would be perceived as familiar experiences of potentially eating the same (actual) dish from the past making the mimicked food acceptable. A specific example from the paper included preserved meats, bread, and milk which were all reconstituted in terms of looks and taste to create the familiar appearance of the fresh versions which was accepted, "because it did not cause the meat (milk and bread) to look different

than expected”.



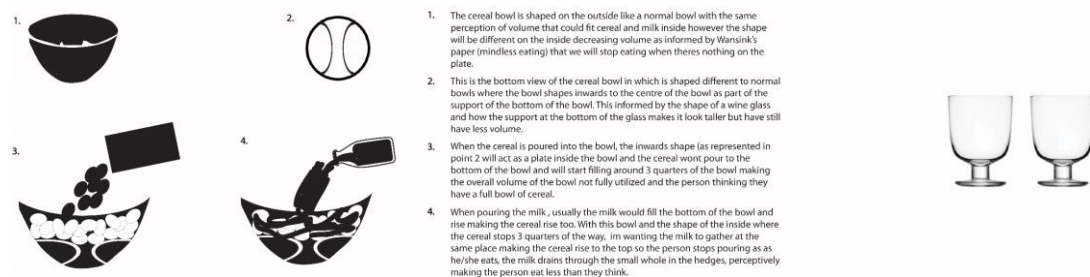
Raghubir, P., & Krishna, A. (1999). Vital dimensions in volume perception: Can the eye fool the stomach?. *Journal of Marketing research*, 36(3), 313-326.

The study of the “elongation bias” by Krishna showed how our minds work by perceiving volumes of objects based on the apparent size and shapes of them. In relation to this idea, you’d remember as a kid how you would be very careful about sharing foods with your friends or siblings and would carefully watch closely that you would give them appropriate amounts based on what you see and then sometimes you fight over who got the largest piece when they were actually the same amount but you thought you perceived it different due to the shape of your piece. Another example of this included in the paper was by Piaget (50 years ago) when he conducted an experiment with children where he poured coloured liquid from a tall glass into a shorter wider one and the children thought that the volume of liquid when poured into it had decreased overall when in it was the same amount of liquid. There were several more experiments included in this paper by different psychologists that point towards the same idea of perceived volume and In this sense, we can see “the inconsistency between seeing and experiencing” with how the eye can easily fool the stomach in ways of creating a size-weight illusion that increase our perception of an expected volume compared to its actual volume. The paper basically summarises how we will perceive the shape/dish with the largest shape (height and width) to have the larger volume even if they were to have the same amount of content in each other.



Wansink, B. (2007). *Mindless eating: Why we eat more than we think*. Bantam.

Mindless eating is a big problem amongst obesity and is the sole reason why our mind controls how much we eat instead of our stomach and hunger levels which in summary what Wansink's (2007) article summarizes. We are always looking for satiation signals from our brain to tell us to stop eating which often gives us the sensation that we are full and isn't determined by how full our stomach actually is which is why the ability to overeat is very common and often hard to control. Through these two papers, I can see how I would be able to adapt the idea of perceptive foods and volumes into potential redesigning dishes that would help the dieting needs of people at home through reducing the portion sizes of food on the dish to help create a sense of acceptance in certain expected dishes. In Andrae's article of mindful eating, we saw the need for "complex and deceptive forms" (Andrae, 2017) which is how as a designer we could use specifically the technique of volume perception to trick peoples minds and make them feel a sense of fullness due to their perception of the shape of the dish from the outside, making them oblivious to the fact that while they're too focussed on finishing the food, they don't realise they're actually eating less food than expected. As Wansink said in his article we "mindlessly - look for signals or cues that we've had enough" (Wansink, 2007) which so to say means if there is nothing on left on table/dish, our mind will tell us to stop eating. This is something that I could potentially use to my advantage as if I know that people will only stop eating when there is no more food on the dish and they are expecting a large volume dish, I could potentially make a plate/bowl that would look large in shape and size from the outside but if I make the inside less in volume, this could give the sensation to someone of feeling full (as they accepted the perception of the size and shape) which in turn would reduce their ability to overeat specifically at home due to the reduction in the overall portion size of the food.



Other References

- Andrae, H. (2017, October). MindFull: Tableware to manipulate sensory perception and reduce portion sizes. In *Proceedings of the Conference on Design and Semantics of Form and Movement-Sense and Sensitivity, DeSForM 2017*. IntechOpen.