A recent study in the Journal of Experimental Biology looked at food choices by dogs and cats [1] when foods were equally palatable, a term we will return to momentarily. 17 beagles and 27 cats were given four bowls of different foods daily and the amounts eaten noted to determine which foods were preferred over a 28 day period.

- Cats consume carbohydrates (43%) and protein (30%). When protein was increased, both carbohydrate and fat intake decreased, and cats had more variation in the range of their protein intake. Fat increases had no effect of carbohydrate intake.
- Dogs consume fat (41%) and carbohydrate (36%). When protein was increased, fat intake decreased, but unlike cats, carbohydrate intake remained the same. Dogs varied less in their protein intake. Also, fat increases were balanced by carbohydrate decreases.
- Neither group maximized protein intake by only eating a high protein diet.
- Fatter dogs preferred protein, younger, slimmer dogs less so.
- Fatter cats preferred protein, but younger, slimmer dogs also had a greater preference for protein.

**Why?**

Carnivores, who eat what they kill have diets high in protein and fat relative to carbohydrates. So in part domestication over centuries has altered the genomic expression of our pets, dogs increasingly interested in carbohydrates and let's be fair, are not known to be picky eaters, enjoying most foods. Cats, on the other hand, maintain their carnivore roots and their eating is far pickier. Unlike dogs, they eat many small meals when food is freely accessible, adjusting their food...
intake to the energy density of the food (in human terms, “I just want a little bite, not the whole thing.”). Both cats and dogs have the same taste buds that we have [2], but for cats, the receptors for amino acids are far more receptive than those for carbohydrates, making them obligate carnivores; dogs are more balanced in their receptors and their food choices.

**Palatability**

In the world of science, palatability is “the momentary and subjective orosensory pleasantness of food consumption.” It is both a short-term effect, e.g., the idea that we first “eat with our eyes,” and a long-term one strongly influenced by post ingestion consequences – as anyone with Celiac Disease [3] or lactose intolerance can attest. The physiologic consequences of our food choices, feedback or condition our future choices – “post-ingestive actions of nutrients can also modulate food preferences.”

The companies that make “processed food” already know this and play our taste buds like a symphony providing sugar and salt to improve our short-term palatability. Unfortunately, except for allergic reactions like Celiac Disease or lactose intolerance, the long-term physiologic consequences are too subtle or distant in time to provide meaningful feedback. Short-term trumps long-term [4]. To generalize, we seem to act more like dogs than cats; we are more domesticated to the food choices offered. As omnivores, we are blessed with a palate (taste buds) that appear to be more balanced than our obligate carnivore pets and this ability is leveraged by processed foods. But here is the thing, to carry out this study, the researchers first adjusted the palatability of the foods, so that wasn’t a factor, only the protein, fats and carbs varied. Perhaps we are making the same mistake again, treating disease instead of habits; maybe we should be concentrating on personalized, precision diets rather than personalized, precision medicine. Maybe, the “obesity crisis” is more about domestication and short-term thinking.

[1] The study was sponsored by Hill’s Pet Nutrition, a producer of prescriptive dog and cat food available through veterinarians.

[2] Both of our pets also have receptors sensitive to water which we do not.

[3] An autoimmune disease where you really are allergic to gluten

[4] This is yet another example of temporal discounting, when we choose now over later, the Wimpy choice of “I'll have a hamburger today and pay for it next week.”