

Culinary Concept-Personal Essay
It's all Greek to me
Towards a broader view of food science and “creativity” in gastronomy

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Abstract

Philosophy's role in the birth of science is well documented. The author examines the role of a variety of social sciences, including art, language, and history, in the creative process. Five abstractions of creativity in the kitchen are presented. The relationship between the philosophy as a driver for technique and ingredient research is fundamental, and underscores the importance of the scientific method in pursuit of the “new” in gastronomy.

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Introduction

If you do your best work with a gun at your head, I'm not prepared to verify that empirically. When approached to contribute to Emilie Baltz's *L.O.V.E. FOODBOOK* (2012), little did I know that the ideas would crystallize in such a “scientific” way. A blend of interest in social and physical sciences allowed a personal reinterpretation of the role of art and science in gastronomy (Baltz and Boisseau, 2012).

The thoughts below concern the creative process in general, as well as the plated dessert in contemporary cooking in specific, with four recent examples. The idea is to contextualize “food science” in “gastronomy” through relationships in the arts and sciences, including, but not limited to: performance art; physics; chemistry; philosophy; and language. The first step in this journey involves an analysis of the creative process in the contemporary kitchen and its methodology.

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Five “abstractions” of creativity in the kitchen

An early inspiration from physical science came from Chapter 25 of Einstein's general theory of relativity, specifically, the concept of Gaussian coordinates with flexible axes and “fixed” coordinates which reflect a “mathematical treatment of continua” (Einstein, 1961). It recalled the phenomenon of site-specific flavor, where food tastes differently depending on *where* (Sforza et al., 1994) it is consumed, in practical terms: across a dimension of distance. This so-called “relativity of taste” (Goldfarb, 2005) served as a springboard for the “five levels of creativity in the kitchen”.

It is safe to say that El Bulli was instrumental in the professionalization of “creativity” in the kitchen (Svejenova et al., 2005). This was internalized during my time at El Bulli and evolved to a new personal concept of commercializing creativity. (For those children of the age of “advanced capitalism” (Murakami, 1988) the logical evolution of professionalization is commercialization, but I digress.) The pursuit of understanding in various disciplines has lead back to the start. Here, the science of mathematics (as it relates to commercialization *vis-à-vis* game theory (Pathak et al., 2010) a relationship not elaborated upon here) can advance food science and gastronomy

through direct inspiration. Commercialization itself forces the innovation conceptually, and is converted into reality with scientific principles.

Understanding of space (or distance) and time was integral to the ideation of these concepts, which generated new and exciting dishes, techniques, flavor combinations, and concepts. It may seem a stretch, but on a sandy beach in Brazil, the flavors/memories of Malaysian Laksa appeared, disguised as a traditional Brazilian Moqueca. If this doesn't demonstrate the relativity of taste, I don't know what does: the same items (baseline) create different elaborations in different places at different times, but retain a fundamental sameness, or relation.

Here is an outline for the dishes presented. It begins with the pursuit of the ingredient, then the technique, then the philosophy, and so on... (The five levels of creativity in the kitchen are a demarcation, a way to categorize the creation. Each level is integrated, intersects at different points, in different places, and at different times. Originally, the levels were classically hierarchical, but that has blurred as pragmatism usurps)youth's dogme (Von Trier, 2003).

Ingredient

The first level of creativity in the kitchen is fundamental: the ingredient. Without principal ingredients of the highest quality *available* (across any spectrum of values: taste; texture; origin... *ad infinitum*) creativity does not have a meaningful starting point.

Technique

Technique is a creativity “multiplier” in that it serves to provide the chef (and therefore, the guest) with another way to prepare or enjoy the principal ingredient. For example, if you only know how to poach fish (or anything), and then you learn how to roast it, you have extended the range of possibilities in your creative sphere. You can now do two things to every ingredient, instead of just one.

The creation of a new technique is a personal creativity *multiplier*, which can then be shared at the author's discretion. (This is in contrast to finding a new ingredient, which *adds* a new flavor, texture, color... to an existing repertoire.)

Philosophy

Here, a breakthrough finding is a third level of creativity, thanks to the extensive field research in Almese, Italy, and Hasselt (Stevoort), Belgium. Thanks to personal contributions (written (Goldfarb, 2005) and otherwise) for AKWA, or more specifically, my insistence on the primacy of philosophy, I began to understand the value of philosophy as the driver behind the scientific method as it pertains to technique and technology, and ingredient. For example, the entire concept of treating the product with “integrity” is, in point of fact, a philosophical construct, and its application has demanded consistency and accuracy (among other *subjective* attributes) in food preparation, *e.g.* sous vide (or old fashioned low temperature cooking). (The author doesn't suggest that accuracy is inherently subjective, but rather that the desired

characteristics of taste, texture, and general desirability that the accuracy serves, is.)

Further, without getting all Socratic in here, the concept of the question that originates in philosophy is the principle upon which the research in food science is the answer. Could philosophy be the bridge between art and science? I think this is an area for continued deliberation.

Love and solitude

I have chosen to combine love and solitude for the sake of brevity. I found love, literally and figuratively, as a key ingredient in cooking, and sure enough, who hasn't heard the phrase, “it was prepared with love.” There must be some deep underlying value that is common across cultures and disciplines, so I don't claim to be inventing the notion of the influence of love on food. However, using Love, specifically, as a lever to reground (or relaunch) creativity in the kitchen, particularly with regard to food science and avant-garde cooking, is worth a mention in its own right. There is no ambiguity, though I can only offer anecdotal evidence for the effect of love on creativity. Perhaps the research of Forster et al. (2009) successfully reinforces the notion that romantic love is fundamental to problem solving. Forster argues, rather convincingly, that being in love forces the “victim” (my quotation marks) to “play the long game” (again, my quotation marks). The argument being that deferring instant gratification (as in looking for sex) for the pursuit of love generates a problem-solving mentality conducive to creative thought that the cold analytical single-minded pursuit of sex does not. (Admittedly, the dish can be hot and steam(ed)y, but that doesn't negate the previous conclusion; it just offers an alternative outcome.)

The final level evolves from love, in the “definition” from Rainer Maria Rilke that describes it as, “two solitudes that border, protect, and salute each other” (Rainer, 1993).

Laboratory/clinical evidence could offer a clue towards the enduring power of the self, but for the time being we can satisfy ourselves literarily via Paulo Coelho's musings (2013), so popular they become accepted wisdom, “without solitude, love will not stay long by your side.” Solitude would therefore *be* the ingredient for love, and loneliness an inevitable waste product of love's ruthless efficiency – or, as Murakami (1988) would say, its “refinements of consumption.” Creativity *can* be driven through extended isolation, which enables reflective thought and creative breakthroughs. Alas, a return to society generally beckons.

Some desserts

The following desserts illustrate the five levels of creativity in the kitchen, utilizing contemporary and innovative techniques in food science and gastronomy. The five levels bubble to the surface in different ways at different times, overlapping to form a web of creative impulse, ideally (but not always) funneled into delicious, beautiful, texturally complex and interesting dishes.

Pandanbert



Fig. 1. Pandanbert fade to black.

Ingredient: pandan, a mysterious and subtle flavor.
 Technique: refining a cream with alcohol.
 Philosophy: word play can generate iconic images.
 Love/solitude: this is a dish to be shared, made with the single-minded pursuit of the elusive Epoisses (a fifteen-year rarely required love affair).

The use of language or word play to create a new context for form or function has, well, form. From Shakespeare to Mallarme to Jonathan Safran Foer, the written and spoken word has shaped creations across disciplines (Safran Foer, 2006). Notably in gastronomic terms, one can find direct lineage from “*a coup de des*” (Mallarme, 1914) in Marinetti’s Futurist cooking, which include his (Marinetti) remarkable insistence on new techniques and new technologies to present “new” foodstuff more suitable for the modern man. The philosophy of the artist demanded innovation in food science (Marinetti, 1991).

Without a descent into the potential political pitfalls of linguistics, who hasn’t enjoyed the delicious side of words in cooking, whether mine or others. Yung and “freudened” (Joyce, 1939) no more, the power of words to generate iconic imagery, which in and of itself influences taste (Spence and Mary, 2012), is best demonstrated in the recent Pandanbert.

In this case, the form of the cheese was recreated to satisfy an Indonesian audience by preparing a pandan-infused panna cotta (Fig. 1). The panna cotta was set with a blend of local carrageenan, so that it would be able to be matured in a Sauternes, before being smoked over a mix of woods, including bamboo and vanilla. The wine “cured” the cream, and “affine”d it, and the smoke started to convert the vanilla and pandan into hay-like flavors, which engender a specific sense – memory of taste.

The cheese metaphor was extended by recreating a “*Bon Moine*” Camembert box, replacing the *Good Monk* with a *Panda Bear*, squaring the circle of a little play on words. Food science was employed to service a concept developed by a game of language. When discussing iconic imagery in gastronomy, one cannot help but recall the caviar tin of El Bulli, in which the “food science” is inseparable from the “concept.”

Therefore, the question isn’t whether the delivery system is the work of art, or the spherification is sexy food science, but rather how do both art and science serve the craft of cooking. [Fortunately, nobody had to eat from Manzoni’s tin (Manzoni, 1961)]. The industrial design component of food science and gastronomy rears its beautiful head (Goldfarb, 2009).

Loneliness, or love: the resolution of anxiety into calm with patience



Fig. 2. Loneliness spaceship.

Ingredient: ginger flower.
 Technique: snow of frozen bubbles.
 Philosophy: with time, anxiety can be resolved into calm.
 Love/solitude: the entire dessert is a meditation on the subject.

The flavor of emotion is a concept that I have worked with for years, beginning in earnest with *Experiential Cuisine* (Goldfarb, 2007). Most recently the work of the food artist Ayako Suwa reminded me of the poignancy of the subject, as well as the pioneering research of Leslie Vosshall into the “feeling” of smell (Vosshall, 2001).

This dessert is about the relationship between textures and distance using flavor to communicate a resolution (Fig. 2). The microwave sponge (Adria, 2004) finds its frozen counterpoint, the torch ginger bubbles are stabilized in cream with sucrose ester, and frozen in a blast freezer (or a liquid nitrogen bain Marie) to create an ephemeral snow-like bubble (also deliciously warm). Raw cacao from Bali flavors a dense yogurt, whose astringency is muted by the petals of mango and passion fruit, made from a light alginate gel, without the addition of calcium. (The calcium contained in the mango is adequate for our purposes.) Chocolate gelato is optional, and formulated with a signature blend of gums and emulsifying agents.

Crucially, and consistently, the tools of food science – with regard to hydrocolloid use, freeze–thaw texture, foam stabilization, emulsion, and dehydration, to name but a few – service the *experience* crafted through cooking. An underlying message takes shape in this dessert: better emotion through science.

Skinny Blanquette, simply fraught with significance

Fig. 3. Skinny blanquette aerial.

Ingredient: coconut, young and old.

Technique: “turbo” fluid gel; fresh egg white wafer.

Philosophy: humility and a willingness to laugh at oneself are indispensable tools in creativity.

Love/solitude: the fundamental comfort of a fat blanket recalls home, relationships, etc.

The feeling of comfort is essential to the dessert course, and in this case, contemporary techniques were developed to communicate this feeling through texture. The inspiration for a “blanket” of fat comes from Joseph Beuys. Here, freshly pressed coconut cream was thickened using low acyl gellan, in the style of a fluid gel. The technical innovation was to add a modified tapioca starch to the fluid gel at the point of setting, which allows for facility of movement, and a creamy texture without syneresis upon thawing.

The coconut water wafer is a unique texture generated by mixing coconut water with fresh egg whites and xanthan gum before whipping in a stand mixer and drying out in a dehydrator. The choice of fresh egg whites shows the unique bubble texture that can be achieved utilizing the water content of fresh egg whites, as opposed to dry egg whites. It is flavored with lime leaf and lemongrass.

All of the principal ingredients in the dessert are grown within minutes of the restaurant, and processed the day they are picked. It goes without saying that this should be a given –

to paraphrase Fergus Henderson, “if you are going around *now* saying your food is local and seasonal, what was it before?”

This dessert is built around two coconuts (foraged?/picked?) – one young, one old – and uses existing and new recipes to build a satisfying, as well as texturally and conceptually, rich dessert (Fig. 3). The subtext is taken from a Tom Robbins quip – art agent Ultima Sommerwell's reference to Boomer Petway's sculptures – “simply fraught with significance,” just to let the diner know that the dessert isn't meant to be taken too seriously.

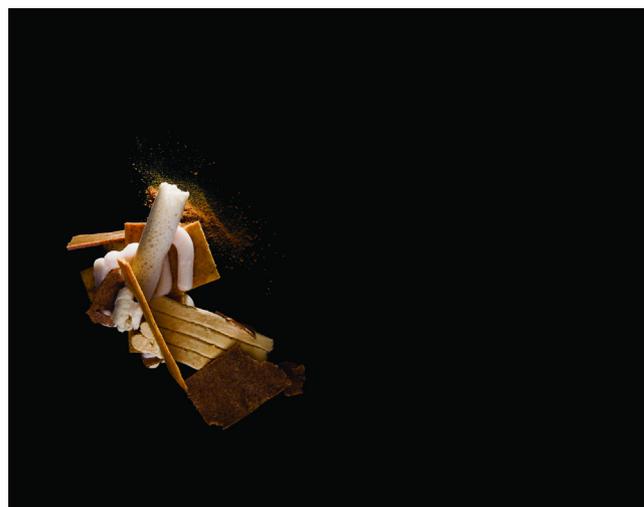
The sugar refinery

Fig. 4. The Sugar Refinery sprained ankle.

Ingredient: palm sugar.

Technique: Tapioca Maltodextrin sablee.

Philosophy: a place, a time, or a story can be communicated with dessert.

Love/solitude: the underlying story is a romance that evolves into a *policier*, much as sugar shows its polyvalence.

The Sugar Refinery is a story of flavor and texture communicated through technique utilizing the most fundamental ingredient in pastry: sugar. The inspiration for this dessert comes from diverse sources in literature and design, starting with Fitzgerald's eyes of Dr. T.J. Eckleburg (Fitzgerald, 1925) (regrettably overexposed in the recent film iteration), following through the Brooklyn-based Domino Sugar plant, and moving along to a fictional (but historically accurate) description of Javanese sugar plantations under Dutch rule (Fig. 4).

The following techniques are employed to tell this story:

1. A *sablee*, or classic short dough, is made with nut praline, using Tapioca Maltodextrin to convert praline paste to the texture of butter, resulting in a unique texture, not dissimilar to inverted puff pastry, which has a unique structure due to the butter block being the outside of the “envelope.”

2. A whipped fluid gel of caramel cream is created using a blend of carrageenans, which allow for a heat stable whipped cream.
3. A mangosteen sorbet is made with freshly picked mangosteens, precise ratios of solids to water, and a custom stabilizer blend of gums and emulsifying agents to maximize elasticity and flavor release.
4. A palm sugar and methylcellulose foam is frozen using a blast freezer (or over a liquid nitrogen bain Mairie) to create a distinctive cold bubble texture.
5. A “toblerone” is made by folding in palm sugar to melted chocolate – since the sugar is not fat soluble, the crystals remain and the sandy texture is appetizing – to stimulate salivation.

The Sugar Refinery is a complete dialog on experiencing a location in a dessert, and it uses existing, and develops new, techniques to introduce a story about the role of sugar in dessert.

Conclusion

From the grand tradition of Socrates through Plato, Aristotle and beyond, knowledge seeking has been critical to our evolution. It is true that a key divide arises between experiential learning and theoretical learning, but that shouldn't cloud the key issue here: the pursuit of knowledge as fundamental to philosophy makes a regard of philosophy central to meaningful food science. At the same time, to paraphrase Polanyi, “theoretical physics isn't a substitute for knowing how to ride a bike.” So where does that leave us? Simply here, that art and science should work together in the service of the craft of gastronomy to maximize the pleasure of the guest. The benefits of the interaction of science and art are infinite. Although on the one hand inspired ideas can result in technical advances, on the other, the strictures of empirical learning can provide

unexpected windows to the extraordinary. Those in pursuit of flavor should pay heed, and those in pursuit of happy guests are obliged. Hospitality! Xenia, j'accuse!

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