



Culinary trompe-l'oeil: A new concept in coating

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Abstract

In the course of any creative innovation, the visual connection is a constant that, even unconsciously, influences the work. The present paper reveals the development of formulas and recipes that arise in order to realize what, in principle, is no more than an exercise in visual replication of a product that is foreign to a given culture. After the execution of this imitation, with hindsight one perceives a culinary object that is literally an edible stone—all this by means of various stages of games of perception that seem to alternate between mineral and vegetable.

The point of departure for such a strategy was our initial research in formulating edible coatings. This in turn led to a culinary formula for replicating a *tunta* or Andean potato. The technical development of this new culinary object, here serves as a test case for the theoretical basis of this paper. To the extent that the process of this development to its culmination successfully achieves the imitation of an Andean potato, this process reveals a new culinary category that creates an object that retains the same sensory qualities of the potato, but with the outward aspect of a stone gathered from a river bed—to this end, the process modifies the composition of the coating by incorporating various colorings.

On the one hand, the aim is to imitate an ingredient that is inherently edible; on the other, the idea is to surpass that imitation by investing the ingredient with apparent qualities of objects not fit for human consumption: river stones. The experiment focusses primarily on the development of a mixture of kaolin and lactose dissolved in water. The application of a formula that mainly comprises these elements opens the possibility to transcend the basic *trompe l'oeil* exercise in illusion with a new idea of food coating. That is to say that the coating does not merely transform the appearance of the product; but also, in a manner that coincides with the completion of cooking, retains the humidity of its content. It is also a fact that, at the same time, it manifests one of the few cases of retaining a crunchy surface while hot—since it is rare in any traditional recipe that crunchiness and humidity could be compatible with such a texture.

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Introduction

The genesis of a dish

Various Andean cultures prepare potatoes called *tuntas* by means of dehydration of the tubers followed by successive freezes (with solar protection), first submerging them in flowing river water, then sun drying them (Fonseca

et al., 2007). A *tunta* has a rough white surface with clefts like those of the tuber eyes that, in fact, are their origin (INDECOPI, 2007). These are none other than potatoes with a whitish surface, velvety texture, and light weight, mild, and similar in characteristics to white plaster (see Fig. 1). The cultures that prepare *tuntas* do so as a means of conserving tubers during periods of scarcity. In order to consume them, they must be rehydrated and cooked.

These potatoes, which, in their dried state, have such an evocative appearance, inspired in the Mugaritz team a desire to replicate them. As such, they posed a challenge of

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Fig. 1. Andean *tuntas*.

imitating one esthetically exotic ingredient, while changing and molding the organoleptic qualities of another. This challenge originated in the search for a new culinary formulation by which to imitate the same velvety feel of the nearly petrified dehydrated tubers.

We considered that the sum of different sensory stimuli could engender a fictive sense of reality that could unleash in the consumer a series of emotional reactions [Adrià et al. \(2007\)](#), so as to create a sense of disconcertion and surprise ([Spence and McDonald, 2004](#)). In order to achieve this effect, the formula ought to have specific mechanical features. These two sensory aspects were set as priorities in order to offer guest a tantalizing prospect of one hidden in a first phase only to be discovered in the second. These would add an unexpected feature to these exotic morsels. That is to say that something apparently inorganic and of a semi-rigid texture, unexpectedly would, with a gentle bite, give way to a surprisingly creamy, sweet, and vegetable consistency.

As a base, we begin by choosing potatoes that are tender and sweet. Their size ought to be proportional to that of the object one wishes to simulate, and they should be able to retain their shape once cooked. In parallel, we worked on the development of edible coatings or coverings that would fit the contour of the potatoes, that would be easy to apply, and which would have the characteristics mentioned earlier.

In order to go beyond the first criterion of replication, and the second part of the exercise as well, we posed the challenge of reproducing by culinary means an inedible object, also with the aim of surprising the guest. By starting with the early idea of the *tunta* as the base, the idea was to play with the visual prejudices of the guest ([Cardillo, 1994](#)) in order to introduce a new culinary element through the introduction of other ingredients in the form of a river stone. Specifically, the experiment made use of the chromatic possibilities of the coating mix as it was subject to color modification with tinctures that would reproduce a mottled gray instead of its more simple bland white color.

Beginning with the ingredients chosen to achieve the first objective, kaolin and lactose, both originally white, we proceeded to develop a formula for food pigments that

would help the replicate our model: a real river stone. A river stone is a universal element in the common imagination of each guest. In that sense, it is not at all like a *tunta*, which is peculiar to a specific culture and geographic area. In effect, the goal was to find a culinary formulation and method to convert boiled potatoes—at first glance Andean *tuntas*—to edible replicas of river stones. In other words, to find a culinary formulation and method to endow a traditional food with the capacity to evoke something quite different. The aim was not only to give a culinary preparation particular physical properties, but symbolic values that would acquire a new dimension ([Muchnink, 2006](#)).

Materials and methods

Materials

- Potato: Cherie variety, the type of potato that for its size (32–35 g), uniformity, resistance of the skin, and sensory characteristics, gave the best results of the selection prior to the actual preparation. Of a sweet and pleasant taste, this variety offered a creamy texture well differentiated from the creamy pulp and the skin, which was firm and barely permeable. This limited permeability served as a moisture barrier in either direction, from interior to exterior and vice versa.

(potato supplier: Earl Mariotte, 47400 Gontaud de Nogaret, France).

- Kaolin (hydrated aluminum silicate powder) (supplier: Guinama, Kaolin quality QP).
- Lactose (lactose 1-hydrate RFE, USP-NF, BP, Ph Eur) pharmaceutical grade according to the PRS-CODEX (supplier: Panreac Química).
- Water.
- Fine salt.

Coloring agents:

- *Dentie*: charred eggplant powder and salt used as a coloring. A powder of traditional use in Japanese culture as a dental coloring (supplier: Mitoku).
- Black vegetable paste, a black paste obtained from the charring of vegetables. The formula comprises carbo vegetabilis, water, glycerol, and hydroxypropyl methylcellulose (supplier: CHR-Hansen).
- Granular corn meal: Zea Mays L. variety, amylaceous [starchy], native to Peru (supplier: Nativó).
- Extra virgin olive oil: from the Arbequina olive variety, cold pressed by machine (Supplier: Assut).
- Dark broth: composed of 500 ml of vegetable broth base; 150 g of degraigned ground corn meal; 2.5 g of fine salt; and 20 g of natural squid ink reduction, crushed and strained to obtain 100 g of dark broth with the clay-like texture.
- Natural squid ink.

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