The trompe l'oeil, from art technique to gastronomic technique

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Abstract
Trompe l'oeil is a technique used in art that attempts to deceive the viewer's eye by playing with the environment and perspective. This skill, present in painting and sculpture, is widespread in the visual arts. However, in recent years it has taken root in gastronomy and the theatrical environment that more and more chefs and gastronomic professionals represent in the menu of their restaurants. The present research sought to disseminate the origin of the technique, as well as the most recent works in the gastronomic world with the aim of expanding its use and improving the consumption experience in food and beverage establishments. The method used in this research was the descriptive literature review, providing an update on the artistic concept in a constantly evolving environment. The results of the research showed that trompe l'oeil is predominantly used in the cuisine of the sweet world, without neglecting the possibility of applying it in dishes of the salt world. In addition, the trompe l'oeil technique requires the skill of the chefs as it is the only way to achieve success.
Key words: trompe-l'oeil; technical art; perspective; gastronomy; plating.

1. Introduction
Gastronomy is a broad concept that cannot be confronted from a single perspective. And when talking about cooking, different elements are involved: nutritional balance, sanitary standards, history and even art techniques. They mention that gastronomic knowledge encompasses a set of systematized or scientific knowledge from different epistemologies and disciplines. At the same time, it integrates popular
or artistic knowledge, constituted by empirical knowledge from cultures and practices. (Koerich & Müller, 2022) So the study of gastronomy can not be unilateral but transversal, because it is the only way to address the different edges that compose it.

With the above, it is valid to question whether gastronomy contains an episteme to give it the status of science, art or discipline, ranging from traditional cuisine to the most contemporary forms. When we talk about gastronomy, we do not refer only to cooking, but to a whole of ways of preparing and presenting food, of handling them hygienically and decorating them, of merging flavors and aromas, of combining ingredients and designing recipes. (Heredia et al., 2015)

In one way or another, those who approach gastronomy as art, argue that it is not only eaten to satisfy hunger, but, above all, to taste, to live an aesthetic experience, to appreciate the creativity, artistic capacity and skills of the cook. They mention that professionals in the area of food are people with both functional, central and general skills; But among the most critical and those that define the success of a chef are those related to taste, culture, food presentation, creativity and aesthetics. (Mahfud et al., 2019)(Borghini & Baldini, 2022) They reaffirm this theory, mentioning that we are currently living in an era of culinary spectacles that have turned chefs into true creative geniuses. For some years now, gourmets have been concerned not only with the good taste of food, but also with the color, the shape of the dish and even the material of the tableware; all in order to enrich the gastronomic scene; (Deroy et al., 2014)(Youssef et al., 2015)

In this way, visual art techniques have been introduced to the kitchen to achieve unforgettable experiences. One of these added techniques is the trompe-l’œil or trompe l’oeil, which is a technique widely diffused in art and architecture and seeks to deceive the eye, using realistic images to create the optical illusion that the objects represented exist in three dimensions. Although this technique is not new, within the culinary field it has only been used for a few years; So the present research sought to establish the characteristics of trompe l’oeil in art and how it has moved to the culinary field. (Nikoo et al., 2022)

2. Materials and methods

In the present study, the descriptive bibliographic review has been used through access to bibliographic databases such as SCOPUS, Web of Science and Latindex. The search was carried out in open access articles that allowed to clarify the research question. In the first phase, a summary of the application of trompe l’oeil as a technique in the most relevant works and that are made in the field of public art is presented.
The main objective of this study is to explore the role of trompe l'oeil in its origin, so that the reader can systematically review the application of the technique.

On the other hand, as the study seeks to disseminate the use of trompe l'oeil in the food field, a research question (PI) and two hypotheses were designed: PI. How can trompe l'oeil improve the dining experience? H1. Enjoying dishes under the trompe l'oeil technique is desirable for diners. H2. Restaurants and places that use the technique are recognized by the media.

Next, according to the literature review, the most important characteristics in the use of the technique in trompe l'oeil were listed to facilitate its subsequent use.

3. Results

Defining art is almost as complicated as trying to conceptualize gastronomy. Well, for every attempt to define it there is always some detail that is left out. Even so, for many years the debate has made it possible to clarify some important points to specify their meaning. (Longan Phillips, 2011) It defines art as an activity that accompanies the human being in his historical journey allowing the aesthetic manifestation. On the other hand, he (Zambrano, 2016) mentions that art is defined as a rational practice based on a system of general rules that implies prior knowledge.

Subsequently, (Hernández Chavarría, 2018) he made a relationship between science and art stating that both processes are similar but the difference lies in their objective. While the sciences are clearly objective, art holds the possibility of being so or not. What, if it is important, is that when the goal in art is the creation of the work, there is a great intervention of the author, his experience and the approach of this.

In one way or another, art is an activity of the human being capable of expressing, communicating and moving, which clearly has an aesthetic purpose and is inherent to culture. Therefore, when talking about "culinary art" this keeps the same relationship. (Ramirez, 2017) He puts it this way: "The culinary art is a characteristic sample of the culture of the peoples (...). It summarizes one of the distinctive aspects in the development of man's life. It is an event that must be looked at in time because it is assumed as a tradition and an act of creativity."

And given the above, as it happens in gastronomy whose preparations are based on cooking techniques and methods, art bases its works on pictorial techniques. According to the Spanish Academic Law (RAE) the word "technique" refers to the ability to execute anything, as well as the set of procedures and resources that a science or an art uses; and,
on the other hand, the word "pictorial" mentions an adjective suitable to be represented in painting. (RAE, 2023) Therefore, pictorial techniques are all those skills to represent and work painting.

From the first man painter who used earths of different colors through the use of acacia gums and murex purple, to acrylic copolymers and ft tolcyanins(Pedrola, 2004); The techniques have served to work and dilute the paintings permitando plasmar the ideas and expressions of humanity. Evolving over the years, the techniques have been the perfect vehicle to represent human thought, incorporate aesthetics and generate sensations.

For (Espinar, 2021) pictorial technique is the way of mixing a pigment with a certain binder allowing the artist to work with color, dilute it or modify its thickness. Therefore, pictorial techniques refer to the use of oil, watercolor, acrylic, etc. However, in the works not only techniques of pintura are used, but also many others and among them, visual techniques. When referring to the trompe l'oeil(Crespi & Ferrario, 1995) they relate it to realism and mention: "comparison between what is and what should be".

Trompe l'oeil is a French word meaning to deceive the eye and is a visual technique(Ernur, 2022) he mentions as "something that misleads or deceives the senses". However, before explaining the technique to readers, it must be clearly differentiated that trompe l'oeil is not the same as painting in linear perspective. And it is that the linear perspective was used in great boom in the late fifteenth century, along with anatomical realism and foreshortening (Sienra, 2022) buscando create the impression of depth alluding to the viewer.

Hence works such as "the school of Athens of Raphael Sanzio"; "St. Jerome in his study of Antonello da Messina"; "Entrega de las llaves a San Pedro by Pietro Perugino"; even the famous "Last Supper by Leonardo Da Vinci" uses this drawing technique to capture in their works the feeling of remoteness until reaching a vanishing point. The difference with linear perspective is that the trompe l'oeil itself is an illusion, providing a unitary impression of size or orientation that contradicts physical measurements.(Wade & Hughes, 1999)

Nor should trompe l'oeil be confused with anamorphosis, as this technique could be described as a distorted projection that requires the viewer to locate themselves in a specific point of view or use special devices to visualize the images(Martin & Martín Fuentes, 2022). Trompel'oeil, on the other hand, needs the human perceptual system to "counter-say" itself by seeing something false, as something real.

Visual processing works through two subsystems: the dorsal and the ventral. Both developed in the primary visual cortex, but processed in different parts of the human brain. The main function of the dorsal stream is to help perform various actions guided by the perception of
objects. While the ventral helps to identify and recognize perceived objects. The usual explanation for this effect is that, while the ventral current is deceived by the illusion created by the trompe l'oeil, the dorsal current is not deceived (or much less so) and this leads to the representation. (Mother, 2015)

Beyond the explanation of these two currents, trompe l'oeil is a technique that fascinated Renaissance artists. The following paragraph tells the story of its possible origin:

"Zeuxis and Parrasio were two painters who face each other to discover which of the two is the better. When the first unveils his painting of grapes lifting the canvas that covered it, they appear so exquisite and tempting that some birds try to peck them. The evidence of the deception of the birds emboldened Zeuxis, who turned to Parrasio's work to undo the canvas that protected it and, in this way, verify his victory. However, when he tries, he understands that the curtain was itself the painting, so he had to admit his defeat. Even though he had deceived the birds, Parrasio had deceived him, who was a painter." (Senmartín, 2016)

In the story of Zeuxis and Parrasio, the illusory images are so perfect that they manage to deceive the eye on which the success of the technique depends. Italian Quattrocento artists like Andrea Mantegna and Melozzo da Forlì are just one of the few artists who were obsessed with perfection. Therefore, they already painted on the ceilings of the churches paintings with illusionistic effects, in many cases frescoed, creating the appearance that there is more space in the room (Hisour, 2017). This decorative way of painting is known as quadratura. That is why quadratura is a derivative of trompe l'oeil and was used in the face of architectural austerity to create the necessary sensations of breadth and depth. (Amoruso, 2018) In the history of art, there are many examples of paintings and trompe l'oeil structures, creating the illusionary effect that is characterized by the fact that, even momentarily, it allows an object to interact with the viewer by looking real. (Ferretti, 2020)

(Hindriks, 2022) He ratifies this concept and mentions that trompe l'oeil is a term to describe objects that are so similar to the existing one that the viewer is deceived. And he adds that the success of the technique works when the objects are perfectly aligned in view of the public. So it is important the luminosity and the space or place of installation where the trompe l'oeil is made. In relation to the above, the (Ferretti, 2020) concept of the perception of images and objects is questioned. It states that while, when a painting is observed on canvas, for example, the objects within it are not perceived as present, what happens when an object is observed, a manzan a. Despite the displacements that the person makes while observing said object, the apple in this case if it is perceived as present. The trompe l'oeil, are characterized by "infringing"
the first concept, despite being static images, momentarily make it seem like a present object and from there the trap is established.

Beyond this technique, the use of this technique has its benefits. (Rodriguez, 2021) It highlights its use as the medium that activates the observer-observed dialectic and that encloses within it a theatricality. (Fathy, 2022) "The use of visual deception not only forms the basis for contemplative thinking, but also enriches reading by adding more layers of veiled meanings that must be recognized and decoded by viewers." In this way, the trompe l’oeil functions as the necessary nexus to elevate the representation towards a reflective point, making the work a dynamic object.

Use of trompe l’oeil in art and architecture

There are many works of art and architectural pieces that refer to this technique, so only a few are mentioned in this work:

The mosaic floors of the Horbat Hadat church in Israel are a trompe l’oeil (illustration 1). First of all, the floor has a frame in gilloché pattern. The geometric interlaces create a visual illusion that makes it possible to see circles surrounded by rhombus. Looking again, the carpet appears to be octagons intertwined with circles in the center, and the combination of octagons creates diamonds and triangles (Habas, 2020).

**Figure 1 North Room. Second and third mosaic. (Habas, 2020).**

On the other hand, there is the apse of St. Satyr in Milan by the Italian architect Donato Bramante (illustration 2), whose illusory effect makes the cathedral seem much larger than it is. The apse that is 97 centimeters deep actually looks like 9.7 meters with the use of the technique (Traverso, 2019). In this sense the trompe l’oeil deepens the conical perspective, i.e. the system to create an illusion of depth to a flat surface (Lajo, 1990).
Another example comes in the hands of Andrea Pozzo, one of the painters with greater recognition in the use of quadraturas. His work in the church of San Ignacio is proof of this (illustration 3). (Martin & Martin Fuentes, 2022) They explain that the technique allows to see the roof of the church, with an unreal architecture, open the barrel vault to the sky and connect the interior of the temple with monumental and fantastic spaces.

**Figure 3 Ceiling of the church San Ignacio. (Martin & Martin Sources, 2022)**

Trompe l'oeil in gastronomy

Once an explanation of the visual technique has been made, some of the examples of trompe l'oeil in the gastronomic scene are presented below:

Noma, awarded five times as the best restaurant in the world (2010, 2011, 2012, 2014 and 2021) according to the list "The World's 50 best restaurants" was one of the restaurants that used this technique. René Redzepi, the chef, knew how to generate the surprise effect in his customers (illustration 4). (Deroy et al., 2014) They comment on the service: "The waiter tells diners that their first two dishes are already on the table. All this seems very strange, since there is nothing on the table. Well, nothing, apart from a collection of pots in the center. Diners are expected to bring the pots closer and start digging with no help other
than their hands, literally, in the 'soil', eating everything they find, including the roots."

**Figure 4 Radishes and carrots with edible soil. (Deroy et al; 2014)**

La postrería, a restaurant and workshop in the city of Guadalajara also opted for this technique in 2013, launching the dish called “mandarina cheesecake”. In this case, the technique is successfully achieved by making the dessert look like a real tangerine. For the dish, a cream cheese flavored with tangerine peels is made which are then placed in a balloon, the preparation is frozen, the balloon is broken, and then covered with gelling kappa and food coloring. In addition to this, it is served on a land of cocoa and on top of some tangerine leaves.

**Figure 5 Cheseecake mandarin. (Escalera & Covarrubias, 2013).**

Ben Churchill, is a chef who calls himself "the food illusionist" and creates dishes inspired not necessarily by food, but quite the opposite, an ashtray, or a dishwashing sponge (illustration 6) can be enough when it comes to generating expectation in the diner. The dishwashing sponge is actually an olive oil sponge, the foam sticking out on top is lemon, and what appears to be soap is actually applesauce.
Cedric Glolet, in his book "fruits" applies the trompe l’oeil technique in most of his recipes and seems real fruits as exotic as passion fruit, or as common as apricot (Illustration 7). Of utmost importance in the recipes of the book, the chef mentions dyes as one of the main products to achieve the natural tones of fruits in their ripe state. Pastry airbrush and silicone molds are part of the essential utensils.

"Red rose cake" is the pastry shop of Turkish chef Tuba Geçkil recognized in social networks for being the creator of hyperrealistic cakes. In an interview, Geçkil points out as part of his success having a good capacity for observation and experience in many arts, such as, for example, sculpture, hairdressing, design, visual arts, etc. (Keswani, 2021). Figure 8 shows
4. Discussion

Through research it can be revealed that most of the applications of trompe l’oeil in gastronomy are applied within the sweet world, with little intervention in the world of salt, so far. Citing the (Adrian et al., 2019) sweet world, he refers to the cuisine specialized in the use of ingredients such as chocolate, ice cream, cakes and desserts in general. However, perhaps over time the trompe l’oeil can be used with the same force in the kitchen of the salt world, since it has been seen that chefs have included ingredients considered as "salty" within the pastry, so the same change would be expected.

But they are not the only findings, the research has allowed to establish that art serves as inspiration for chefs much more than it seems within the area. You already mention(Deroy et al., 2014) that gastronomy seems to repeat the artistic movements marked in the visual arts. Thus, Michel Troisgros, a lover of contemporary art, recognized one of Mondrian’s classic paintings in one of the culinary creations of his restaurant. Not only this, (Spence et al., 2014)he mentions the illusory effects in the plating, referring to the size-contrast of Ebbinghaus-Titchener and illusion of Delboeuf that is carried out in the tableware.

Interestingly, the arts in general and gastronomic art are more linked than it seems. They highlight the importance of music in multisensory experiences of wine(Spence & Wang, 2015)and establish that the experiences chefs should be concerned about are the alliances between music and food, as doing so can change the sensory-discriminative, descriptive and hedonic attributes of food. This referential dimension allows us to argue that perhaps all artistic areas could serve as a source of inspiration for chefs and improve the consumption experience. The study analyzed the influence of plating based on a Kandinsky painting. Interestingly, participants reported higher valuation of the art-inspired dish, and would even be willing to pay more for it. "The concepts of
culinary skills and art are in constant interaction with each other, because gastronomy leaves traces in the senses as in art."(Michel et al., 2014)(Ekincek & Günay, 2023)

After the literature review, the study had hypothesized: how can trompe l'oeil improve the gastronomic experience? From the point of view of the authors, the trompe l'oeil allows to surprise the diner, as a stimulus that enriches the gastronomic scene and, therefore, makes a visit to a restaurant memorable. Despite the above, the gastronomic industry is not deprived only of this technique, and seeks to generate the "surprise" effect in its menus in multiple ways. (Spence & Youssef, 2022) mention the plating of the dessert "sex on the beach" by chef Alvin Leung, or the "rotten" apples of chef Andoni Aduriz as a sample of the possibilities that occur within a restaurant to achieve unforgettable experiences. Haute cuisine chefs want their guests to experience a range of emotions, encouraging emotional engagement and provoking a reaction.

Given the above, the first hypothesis could be refuted by referring to the fact that it is not the diners who seek to "live the experience" of a trompe l'oeil, on the contrary, the surprise effect is only achieved when the chefs manage to truly surprise the attendees whether or not the technique is used. Hence, restaurants have chosen to use many ways to enrich theatricality, from the use of electronic devices such as projectors, audio and video, to AR devices(Spence & Piqueras-Fiszman, 2014). Although the hypothesis is null, what is true is that art and cuisine are strongly linked, causing chefs to increasingly seek a certain type of inspiration in it. (Spence, 2022) Currently, there seems to be a movement towards new ways of interacting with food, which makes this a topic worthy of study by designers, chefs, gastrophysicists, gastronomic artists and vendors.

The second hypothesis of the study referred to the recognition of the environment by using this technique. We can affirm our assumption since, diners remember much more what has caused more surprise and professionals from the gastronomic world such as Ben Churchill, Cédric Grolet or Diego Guerrero, have generated that this culinary trend is recognized worldwide turning food into an art and not only in food transformations that nourish and generate mental well-being.

5. Conclusions

Several authors share the same vision about the trompe l'oeil, identify it as a visual technique of art that seeks the perfection of the objects represented to achieve the effect of deception, however, this technique is not simple, the trompe l'oeil at a general level requires skills both in the handling of pigments, support, direction of space and the use of perspective.
The astronomical field is not far from the reality of the world of trompe l’oeil, because to create a dish under this technique you need deep knowledge of cooking techniques, as well as great skill to generate the visual trap through the use of textures, color ranges, shapes and the innate use of creativity.

The gastronomic establishments that use this type of techniques are faithful in the mind of the consumer, create psychologically in the diners new culinary experiences, modify what is expected in traditional food and deceive favorably the human psyche, trompe l’oeil in the kitchen can be conceived as food that increasingly more People fall in love and surprise, not because of its taste exclusively, but because of all the complex mental experience it offers before the common nutritional and sensory experience.

Bibliography


Rodríguez, N. F. (2021). To see or not to see. gaze and (meta)theatricality in cómo se engañan los ojos by juan bautista de villegas. Librrosdelacorte.Es, 21, 203–222. https://doi.org/10.15366/LDC2020.12.21.008


