Practice Project Title: “Legal Opinion: The protection of flavour and aroma by means of intellectual property law”

Abstract

The culinary world is constantly developing. These developments are largely due to the recent evolution of sharing recipes and dishes on social networks as well as the emergence of new cooking techniques that allow chefs and companies to develop new creations. In a commercial context, chefs and food companies are seeking to regulate the use of these recipes to avoid any unauthorized reproduction. Indeed, chefs in the same sector are led to draw inspiration from the creations of others, or even to copy them. Others who are not from the sector can also appropriate a recipe to market it.

This study will focus on the gustatory part of the culinary creation, and more specifically on aromas and flavours. These two elements are specific and exclude culinary creation in its visual aspect. The issue at stake is to know by what means of intellectual property a chef can protect the taste of his creation. If the means of intellectual property are unsuitable or inadequate, alternative means should be sought in order to find the most suitable solution.

Legal Opinion: The protection of flavor and aroma by means of intellectual property

Table of contents

Introduction

The philosopher Korsmeyer said, "The arts of the taste and the smell aim, and indeed must aim, at pleasing- at immediate, sensuous gratification. (…) These built-in limitations are the basis for the fact that there is no range of expression available to the taste and the smell, nor can any such range be developed which is at all usable; and with the limitation on expression goes a related limitation on intellectual content.".[1] Korsmeyer illustrated the taste as a very specific sense due to its subjectivity, perceived differently by each person. This feature will help to explain certain limitations in the field of intellectual property.

Aristotle described in his writings how the Greeks already distinguished taste and smell from the other senses, as being at the bottom of the hierarchy of the senses. [2] At the top of the pyramid were sight and hearing, leading to art and music and considered the most significant for human and intellectual life. The taste was perceived as animalistic and was generally excluded from discussions on philosophy and aesthetics. Considered as an element of necessity, and not as an artistic element, the taste was denigrated for quite a long time until French chefs began to publish their cookbooks in the 1800s.[3] If today there no longer exists this hierarchy between the senses, taste nevertheless specific in that it leads to an ephemeral sensation, a subjective feeling and has a non-aesthetic aspect, which excludes it from the qualification of a work of the mind.

Taste is the main sense that allows us to eat with or without appreciating food, it also allows us to feel flavours and aromas. Flavours are the main structures of food, it is our first feeling in the mouth when a product is sweet, salty, bitter or sour. More precisely, a flavour can be defined as "how food or drink tastes, or a particular taste itself".[4] An aroma is "a strong, pleasant smell, usually from food or drink"[5]. While a flavour refers to the gustatory aspect of food and the senses inside our mouth including our tongue, an aroma is related to the nose and refers to the sense of smell. Aromas can thus be related or compared to the regime of fragrances and odors in terms of

[1] Leon Calleja, Why Copyright Law Lacks Taste and Scents, 21 J. Intell. Prop. L. 1 (2013)
[2] Germain, Claire M., 'Don't steal my recipe ! A comparative study of french and U.S. Law on the protection of culinary recipes and dishes against copying' (2019), Working Papers. 7
[3] Barak Zarin: 'Knead to know: cracking recipes and trade secret law', Elon Law Review, (2016)
[4] 'Flavour', Cambridge English Dictionnary, https://dictionary.cambridge.org/fr/dictionnaire/anglais/flavor (last visited Jan. 20, 2020)
[5] 'Aroma', Cambridge English Dictionnary, https://dictionary.cambridge.org/dictionary/english/flavor (last visited Jan. 20, 2020)

intellectual property. Aromas may be natural if the aroma part is exclusively composed of natural aroma preparations and aroma substances. This does not mean that its result has been obtained without chemical manipulation. An aroma can also be artificial, which is the product of chemical synthesis copying either a natural taste or can create a new one.[6]

The discovery of different tastes is not new. As early as the time of Christopher Columbus, new tastes developed thanks to the discovery of spices. Today, scientific means allow new production processes to achieve new tastes. For instance, next to the four tastes sensation: sweet, sour, bitter and salty, a researcher has found a fifth taste: the unami, which revers a meaty or savory flavor. [7] The media also contribute to the trend of cooking and creation of new flavours. Culinary programs such as Top Chef or social networks with Instagram play a key role in culinary novelty. Cookery recipe books allow for the sharing of dishes, new cooking methods and, indirectly, new tastes. More recently, a two-star chef in the Michelin guide, Denis Martin, used to come to the customers' table with a spoon to make them test a range of different tastes for a unique experience.[8]

The creators of these new tastes can be grouped into two categories. The first concerns companies in the food sector that are going to create new products. In a recent case before the Court of Justice of the European Union, the taste of a cheese called "Heksenkaas" created by the Levola Hengelo company was at issue. Other companies such as Coca-Cola for the specific taste of their drink or Nestlé for chocolate or coffee are led to create new flavours. In the food industry, scientists are working, using scientific means, on new tastes intending to attract and satisfy the consumer. The Kerry Group, a world leader in the food industry, has a global network of flavourists, biochemists and fermentation experts to help manufacturers find new tastes. The Kerry Group offers a wide range of aromas and taste technologies such as extracts, broths, infused oils and concentrated juices.[9] The second category of creators of new flavours is chefs. Chefs are often looking for new sauces or flavours for their dishes. They often use more artisanal means and have fewer means at their disposal than in the food sector. Generally, they carry out tests directly in their kitchens, mixing the ingredients to come up with a new dish, a new sauce, or even a new ice cream with an original taste.

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[6]Article 2, Regulation (EC) No 1334/2008

[7] Roberto A. Ferdman, 'Scientists have discovered a new taste that could make food more delicious' (the Wahsington post, 27 July 2015) <https://www.washingtonpost.com/news/wonk/wp/2015/07/27/scientists-have-found-a-new-taste-that-could-make-food-more-delicious/> accessed 19 May 2020

[8] Charles Spence, 'Pairing flavours and the temporal order of tasting', (2017), Spence et al. Flavour

[9] Kerry website, <https://www.kerrygroup.com/taste-nutrition/taste/> accessed 15 August 2020

Whatever the author of the taste creation, the aroma or flavour is transcribed in writing to be reproduced and shared. This writing is called a recipe or formula if it concerns more complex scientific processes. The aromas will be more represented in a scientific formula with the names of the components as it has a more scientific conception and is brought to be transcribed by molecule names. While a recipe can certainly be shared in books, on blogs or even on social networks, some chefs or companies want to keep it secret. Indeed, this recipe can be of considerable economic value, especially when it is successful. The biggest problem facing the authors of a culinary creation is competition. Indeed, if a confidential recipe is revealed, someone could appropriate it and make a profit from it in a restaurant or similar industry. The challenge is to find a way to keep the recipes secret and, if this is no longer the case, to be able to prevent any competition.

It is therefore pertinent to wonder what is the most adequate means of protection to protect a flavour or aroma. The two related notions, although they are not associated with the same sense, are specific in that they concern only one aspect of culinary creation: the gustatory side of the creation. The aesthetic aspect should therefore be left out of this study, which consequently excludes trade dress law. Very recently, the protection of a taste has been excluded by copyright law at the European level. Moreover, a recipe being assimilated to a manufacturing process is also excluded from protected works of the mind. Not all intellectual property protections will be adequate to protect an aroma or flavour. Some will be more appropriate than others in a particular field or for certain creations only.

The traditional means of protection of intellectual property such as copyright, trademark, and patent law will be firstly developed (1). The author will then consider whether alternative means of protection are effective in protecting a taste and an aroma (2) before, in a third step, looking at the concrete proposals put forward by some commentators (3).
Finally, after having outlined all types of protection, the legal advice will be detailed (4), namely which protection(s) would provide the most suitable protection for the flavour or aroma of culinary creation.

1. Protection by the traditional means of IP

Intellectual property offers several protections provided by its two branches: literary and artistic property on the one hand and industrial property on the other hand. As trade dress has been excluded from this study, traditional means of protection refers to copyright law (1.1.), trademark (1.2.) and patent law (1.3.).

1.1. Copyright law

Copyright law could be an interesting means of protecting a flavor or aroma because it is not subject to any formalities requirements and an author has a long period of protection.[10] Before even looking at the substantive conditions of the copyright protection, the question is whether any work can be protected by copyright. This issue is related to the notion of subject matter.

From an international position, the Berne Convention,[11] adopted in 1886, gives an illustrative list of subject matters which must be related to literary and artistic works produced in the literary, scientific and artistic domain. This article describes that an idea cannot be protected. European Union States have then incorporated legislation that adopts either a closed list or an open list of subject matters. [12] By an open list, such as in the United States[13] or France[14] where a scent of a fragrance is eligible for protection[15], an aroma or flavor can be more easily protected than by a closed list as in United Kingdom.

If the texts do not exclude explicitly an aroma or flavor from the protection by means of intellectual property, the judges ruled otherwise. From an international overview, recipes have always been excluded from copyright protection and more recently, EU wide, taste has also been excluded from copyrightable works.

Concerning the recipes, those are fundamental for chefs who need to establish how they can get to that taste or aroma. It is a way to be able to reproduce this final result, to share it but also to distinguish oneself from one's competitors. If the question did not originally arise because

[10] Tanya Aplin, Jennifer Davis, *Intellectual Property Law: Text, Cases, and Materials*, (3rd edn, Oxford 2017)
[11] Article 1(2) of the Berne Convention
[12] Tanya Aplin, Subject Matter, Research Handbook on the Future of EU Copyright Law (Edward Elgar, 2009), p. 49-76
[13] Article 17 U.S.C. S.102 (a)
[14] Article L112-1 IP Code
[15] L'Oréal SA v Bellure NV (2006) ECDR 16

everyone shared their recipes, recipes today are more associated with the idea of economic profit. Recipes, therefore, constitute an important value that can be copied. However, several decisions from Courts around the world have excluded copyright recipes. In the United States, the Seventh Circuit, in 1996 in the decision Publications International, Limited v. Meredith Corp., allowed the defendant to publish a cookbook of recipes using Danone yogurt because recipes are nit copyrightable.[16] EU States adopt the same solution. It can be justified by the fact that recipes are perceived as facts and ideas or process which are excluded from the protection as required by the Berne Convention and domestic laws.[17] In addition, US law explicitly excludes procedure, process or system from the protection.[18] Therefore a recipe, perceived as an idea, a know-how, cannot be protected by copyright. However, there is one exception to this exclusion: a recipe can be protected in its literary form, as an original combination of recipes in a cookbook for example.[19] However, in this study, chefs want to try to find a way to protect their recipes in themselves and not in their literary form which could be useless or not for the same purpose.

One could imagine that the taste itself, not perceived in the form of a recipe, could, if it is original, be protected by copyright.[20] Protecting the taste in its recipe form is excluded but protecting the taste in itself as it is original could perhaps benefit from the protection. The European Court of Justice held, on 13 November 2018, that the taste of food cannot be protected by copyright law under EU legislation.[21] The Court explained that to be protected, a work should be "expressed in a manner which makes it identifiable with sufficient precision and objectivity even though that expression is not in permanent form".[22] In this instance, the taste of the cheese could not be identified with objectivity and precision.[23] Judges must be able to identify the work precisely and clearly in order to provide legal certainty to prevent judges from being subjective in the

[16] Publications International, Limited v. Meredith Corp., 88 F. 3d 4773, 475 (7th Cir. 1996)
[17] Michael Goldman, 'Cooking and Copyright: When Chefs and Restaurateurs Should Receive Copyright Protection for Recipes and Aspects of Their Professional Repertoires' (2013) 23 Seton Hall J Sports & Ent L 153
[18] 17 U.S.C. S.102 (b)
[19] Caroline M Reebs, 'Sweet or Sour: Extending Copyright Protection to Food Art' (2011) 22 DePaul J Art Tech & Intell Prop L 41
[20] J Austin Broussard, 'An Intellectual Property Food Fight: Why Copyright Law Should Embrace Culinary Innovation' (2008) 10 Vand J Ent & Tech L 691
[21] Levola Hengelo BV v Smilde Foods BV (2018), case 310/17
[22] Levola Hengelo BV v Smilde Foods BV (2018), case 310/17
[23] Court of Justice of the European Union, 'The taste of a food product cannot be classified as a 'work'', Press Release No 171/18, 13 November 2018

qualification of a work. [24] The taste of food is subject to legal uncertainty because of the food preferences, consumption habits, age, which avoid tasters being objective. Taste can be understood as a component of flavor, and, by analogy, the solution of the European Court of Justice is therefore applicable to flavors.[25] Aromas, which is quite different because it describes food smells, can be subject to discussions. If an aroma is assimilated to a smell, precedents may apply to it and then there'd be a chance that the aroma could be protected. Indeed, European jurisprudence is fluctuating on this point and accepted, in the Lancome v Kerofa decision, that a perfume could benefit from copyright protection. One of the arguments was that a smell could be sufficiently represented by laboratory tests. However, in another decision, Bsri-Barbir v Ste Haarmann et Reimer, the Cour de cassation in France states that a perfume, as it is related to a know-how, could not benefit from copyright protection. According to this legal indecision concerning the protection of perfumes by copyright, it is better for a chef to avoid relying on copyright. Indeed, copyright is a source of legal uncertainty in this area and an aroma could not be covered by the desired protection because of its subjectivity.

To conclude, currently, copyright should not be relevant at least for flavor because on the one hand, taste or aroma cannot be protected by a recipe, and on the other hand, due to the lack of objectivity of a taste or flavor, it has been eliminated from the protection. This does not exclude, however, that one day the technical means of the state of scientific development will allow this precise identification, but this is not the case today.

1.2. Trademark law

Trademark could be defined as "a name or symbol on a product that shows it was made by a particular company, and that it cannot be used by other companies without permission".[26] It has well-defined purposes as its original function is to enable consumers to identify the origin of a

[24] Caterina Sganga 'The notion of « work » in EU copyright law after Levola Hengelo : one answer given, three question marks ahead', (2018), European intellectual property Rev
[25] Andrew Wilson, 'Taste vs. Flavor: What's the difference', (Center for Smell and Taste, 5 May 2015), <http://cst.ufl.edu/taste-vs-flavor-whats-the-difference.html>, accessed 12th March 2020
[26] 'Trademark', Cambridge English Dictionnary, https://dictionary.cambridge.org/fr/dictionnaire/anglais/trademark, (last visited 18 February 2020)

product or service and distinguish seller's goods.[27] In the food area, trademark law makes it possible to associate a food product with a company, giving it a monopoly of exploitation and preventing a third party from exploiting the product under the same name.[28] To deposit the flavor or aroma of a food would thus allow its producer to avoid that the same taste is exploited under the same name.

If it has been accepted that a pastry chef can deposit the name of his creation, as Pierre Hermé did for his pastry "Ispahan", the deposit of the taste of such a creation raises further questions.[29]

Firstly, almost all legal systems in the world impose a requirement of graphical representation in order to determine the precise scope of protection.[30] In EU, the European Community trademark harmonization directive imposes to all member states that a sign must be capable of being visually representable and that this representation must be clear, precise, complete, easily accessible, intelligible, durable and objective.[31] In the United States, Section 45 of Trademark Act defines a trademark as a word, name, symbol or device. However, flavors or aromas are not aesthetics and cannot be represented physically. Since the text does not mention the subject, the jurisprudence progressively answered the question. In a famous decision named Stickman, in 2002, the European Union Court of Justice rejected, the application for registration of a fruity balsamic odor with a slight hint of cinnamon because the graphical representation "C6H5-CH = CHOOCH3" does not allow the brand to be established in a clear, precise, durable and intelligible manner.[32] However, the Court does not preclude a mark from being olfactory or gustatory if it satisfies the condition of graphic representation. Following this decision, the French Office, confirmed by the French Court, rejected a registration of a mark consisting of the artificial aroma of strawberry on the ground that the graphic representation of the mark was subjective and liable to vary over time.[33] EU legislation changed recently and EU Trademark Reform Package deleted

[27] Raveen Obhrai, 'Traditional and Contemporary Functions of Trademarks' (2001) 12 J Contemp Legal Issues 16
[28] Thomas A Gallagher, 'Nontraditional Trademarks: Taste/Flavor' (2015) 105 Trademark Rep 806
[29] French brands Databases, INPI, <https://bases-marques.inpi.fr/Typo3_INPI_Marques/marques_fiche_resultats.html?index=2&refId=1431785_201915_tmint&y=123>, accessed 28 May 2020
[30] M M S Karki, 'Non traditional Areas of Intellectual Property Protection: Colour, Sound, Taste, Smell, Shape, Slogan and Trade Dress', Journal of Intellectual Property Rights, Vol 10 November 2005, 499
[31] Examination guidelines on the Trademarks of the European Union, 'Absolute Grounds for Refusal', (2017)
[32] Sieckmann v German Patent and Trademark Office (case C-273/00),12 December 2002
[33] Société Eli Lilly and company v Monsieur le Directeur de l'INPI, CA Paris, 3 octobre 2003, 4e chambre, section B, n° 03-2153,

the requirement of graphical representation to provide more flexibility. Currently, it imposed that "a sign should be permitted to be represented in any appropriate form using generally available technology and thus not necessarily by graphic means". With this change in legislation, there has been a shift from an objective condition, namely graphic representation, to a subjective condition in such a way as to enable the competent authorities to determine the exact object of protection.[34] It is not certain that this will change much in practice since it will still be necessary to display the trademark sign in a sufficiently intelligible, durable, clear and precise way.

Secondly, a difficulty related to the distinctiveness of a sign, which requires the ability of distinguishing the goods or services of one person from those of another of the sign, arises. Indeed, it is not common that taste is used to designate the source of a product. Therefore, consumers do not give enough taste in their heads to distinguish one from the other and tastes and aromas could not be recognized as the origin of a particular trademark.[35] In the US, in a decision N.V. Organon, whereby a pharmaceutical company sought to protect the orange flavoring of its antidepressant tablet, the Court held that the mark was not entitled to registration because the flavor was not distinctive.[36] The defense of the pharmaceutical company suggesting that this flavor was found to be favorite among consumers and that orange flavor gives to the product a competitive advantage was rejected.

Despite these two difficulties, no text explicitly excludes a taste or aroma from being registered as a trademark if the condition of graphic representation is correctly met and the applicant proves that his sign is distinctive. However, the use of the trademark has limited purposes as it is essentially protection for commercial use. The chef of a restaurant who would only like to protect the taste of his new sauce will not ask himself the question of protecting it under trademark law. Trademark law may therefore only be of interest in the food industry sector which would like to distinguish itself from its competitors. In addition, the principal drawback of using trademark law is that it does not protect the recipe itself. These are the reasons why trademark law is rarely, if ever, used to protect an aroma or a flavor.

[34] Trademark Package: Regulation no. 2015/2424 and Directive no.2015/2436
[35] Jacey K Mc Grath 'The new Breed of Trade Marks: Sounds, Smells and Tastes' (2001), 32 Victoria U Wellington L Rev 277
[36] Amanda E Compton 'Acquiring a Flavor for Trademarks: There's No Common Taste in the World' (2010), Northwestern Journal of Technology and Intellectual Property , vol. 8, no. 3

1.3. Patent law

In the food area, patent law could be a wise solution to protect a chef's recipe. A patent can be broadly defined as "the official legal right to make or sell an invention for a particular number of year".[37] In the US, patent law protection is provided in Section 35 of the U.S. Code which requires novelty, non-obvious subject matter and utility. Design patents, which tend to protect the aesthetic appearance of a food product, are irrelevant in this study as flavor and aromas does not involve shapes and visual perceptions. In the European countries, the invention must have an element of novelty, must involve an inventive step or be non-obvious, and must be susceptible to industrial application. In concrete terms, for a taste or aroma to become patentable, a chef must prove that his recipe has never been created before and that it brings a utility. In France, the National Institute of Intellectual Property owns a website with all deposited patents including patent entitled Process for obtaining oil flavoured with natural black truffle and device for its use.[38] Still about aromas, there is also a patent on a Process for obtaining natural vanilla aromas by enzymatic treatment of green vanilla beans and the resulting aromas.[39] The International Classification of Patents provides a class A23L related to food regarding food items and preparation.

The field of molecular gastronomy is of interest to patent law in terms of linking cooking with science. It can be defined as the "scientific discipline concerned with the physical and chemical transformations that occur during cooking".[40] In this process, textures of food and tastes are often transformed by using a science lab. This type of cooking has developed more recently due to TV shows as "Top Chef", where chefs must invent new tastes and textures and have to go through new cooking techniques.[41] Social media has also participated in the emergence of molecular cuisine because of the publication of photos with unique presentations The media, however, has less of an influence on a recipe, specifically with regard to flavor, because discovering a chef's flavor creation in a gustatory experience, which can only occur in person as opposed to

[37] 'Patent', Cambridge English Dictionnary, https://dictionary.cambridge.org/fr/dictionnaire/anglais/patent , (last visited 28 April 2020)
[38] European Patent No. 90450007.1 (filed 02.04.90)
[39] European patent No. 92919419.9 (filed 30.10.96)
[40] Nathan Myhrvold, 'Molecular gastronomy', (Britannica, 22 June 2018) <https://www.britannica.com/topic/molecular-gastronomy>, accessed 1rst August 2020)
[41] Morgan P Arons, 'A Chef's Guide to Patent Protections Available for Cooking Techniques and Recipes in the Era of Postmodern Cuisine and Molecular Gastronomy' (2015) 10 J Bus & Tech L 137

online. Chefs of postmodern cuisine may have less difficulty in asserting proof of a scientific description of their invention.[42] The development of science in the culinary sector allows a more detailed and complete description for the patent application.[43] However, chefs must be very rigorous in describing their invention of food by using skilled people such as scientists or analytical instruments to characterize the taste or aroma and their components.

While there are enough patent applications in the field, they do not always result in a patent. This is mainly due to the non-obvious condition to an average person in the field.[44] This condition is also related to originality. A chef must prove that the aroma or flavor has never before been created and is a new combination of ingredients. Traditional recipes or recipes from one's ancestors cannot be patented if they are not modified and do not bring an inventive character. Applicants may therefore sometimes be faced with the difficulty of providing proofs. As we have seen with trademarks, tastes and flavors are subjective in nature. To obtain a patent, these must be adequately described and reliably tested. The applicant will have to be assisted by analytical instruments as well as experts to establish the precise formulas of the subject matter of the patent.

Despite these difficulties, many chefs have been able to protect their creation in this way. In 2011, 1200 patents related to food or edible material have been accepted by the United States Patent Office.[45] To protect flavor and aromas, chefs used to patent recipes or food techniques.

Concerning recipes, a flavor system with a high chocolate flavor impact has been successfully patented.[46] In 2008, the United States Patent and Trademark Office accepted the application of a chef for its multi-flavored dessert cakes.[47] This cake has several layers of sponge cake that absorb the syrup and each layer has a different flavor. This patent shows that a chef can use a traditional cake such as Opera, rework it, and produce an inventive and original solution that

[42] Morgan P Arons, 'A Chef's Guide to Patent Protections Available for Cooking Techniques and Recipes in the Era of Postmodern Cuisine and Molecular Gastronomy' (2015) 10 J Bus & Tech L 137

[43] Morgan P Arons, 'A chef's Guide to Patent Protections Available for Cooking Techniques and Recipes in the Era of Postmodern Cuisine and Molecular Gastronomy', (2015) Journal of Business & Technology Law, vo 10, n1, 2015, 137

[44] Emily Cunningham, 'Protecting Cuisine under the Rubric of Intellectual Property Law: Should the Law Play a Bigger Role in the Kitchen' (2009) 9 J High Tech L 21

[45] Morgan P Arons, 'A chef's Guide to Patent Protections Available for Cooking Techniques and Recipes in the Era of Postmodern Cuisine and Molecular Gastronomy', (2015) Journal of Business & Technology Law, vo 10, n1, 2015, 137

[46] U.S. Patent No. 3,733,209 (filed 06.10.70) (issued 15.05.73)

[47] U.S. Patent No 7,438,939, (filed 16.06.03) (issued 21.10.08)

can allow the application of patent law. Another interesting patent related to flavor that has been granted which allows the protection of a sweetener having an improved sucrose-like taste.[48] The applicant has also obtained the patent for the process of modifying the taste profile of an artificial sweetener to come close to the taste of sucrose.[49]

Food techniques reveal the manner used by producers to obtain such a taste or aroma. While this protection does not protect the taste itself, it is nevertheless effective and valuable because of the method used to achieve it. Protecting the way a taste or aroma is achieved at can be a solution if a chef encounters evidentiary obstacles to protect the taste or aroma itself. That is how a microwaveable sponge cake[50] or a process making a "fruit ganache"[51] could have been protected by a patent. However, the applicant must prove that the food technique T makes a real contribution and the combination of ingredients must create a new function because if it does not lead to a creative result, it will not be patentable.

Specifically, the chef Homaro Cantu created flavored paper on which to put his menu on and flavor altering utensils.[52] The chef Ferran Adria is known to have created and patented a transparent ravioli, made with transparent edible film discs of potato and soy lecithin that dissolve when in contact with water.[53] He also patented an olive oil caviar describes as "a new technique which surrounds olive oil drops with a thin layer of water with sodium alginate".[54] Finally, by using jellification, Ferran Adria produced a thin film of jellified liquid and patented Saffron Tagliatelle. All these patents in the field of molecular gastronomy show that it is certainly easier to demonstrate the non-obviousness in this field thanks to the techniques used and the involvement of science.

Ultimately, a patent is a good way to protect a flavor in that it creates a monopoly and prevents others from using the same taste result or its process. Regarding the conditions of patentability, it is understandable that natural aromas are not sufficient to be patentable, it will then be necessary to add ingredients for an aroma to benefit from protection unless it concerns the

[48] Paul Burnett, Christ McHattie, 'Do you have a taste for patents? Exploring the patentability of flavors and flagrances), (The McHattie Law Firm, 2 May 2012) http://mchattielaw.com/do-you-have-a-taste-for-patents-exploring-the-patentability-of-flavors-and-fragrances/, accessed 27 June 2020

[49] U.S. Patent No. 6,180,155 (filed 08.05.95) (issued 30.03.01)

[50] U.S Patent No. 6,410,074 (filed 02.09.01) (issued 25.06.02)

[51] U.S. Patent No. 5,958,503 (filed 21.02.97) (issued 28.09.99).

[52] Mary Grace Hyland, 'A Taste of the Current Protection Offered by Intellectual Property Law to Molecular Gastronomy' (2016) 8 Cybaris Intell Prop L Rev 155

[53] Mary Grace Hyland, 'A Taste of the Current Protection Offered by Intellectual Property Law to Molecular Gastronomy' (2016) 8 Cybaris Intell Prop L Rev 155

[54] Mary Grace Hyland, 'A Taste of the Current Protection Offered by Intellectual Property Law to Molecular Gastronomy' (2016) 8 Cybaris Intell Prop L Rev 155

process of obtaining a natural vanilla flavor as Nestlé did in its patent application.[55] However, the patent has several drawbacks, in particular the disclosure of the process, but also its term of protection, which is only 20 years.[56] After 20 years, anyone will be able to reproduce this taste or aroma. Secondly, copies of patent applications and issuances become public records available to everyone, including other chefs. However, for Morgan Arons, the technique, flavor or taste will be popular once patented and copiers will surely manifest themselves in the moment of the deposit and not 25 years from now.[57] Science is not set in stone and it is not unlikely that 25 years later, the patented technique or food will no longer be current or suitable for use.

Lawyer Morgan Arons, denotes that using patents for molecular gastronomy has a positive impact as it contributes ton and protects, creativity and unique culinary ideas; however, the patent application is expensive, which prompts restaurants to raise prices. Chef Hamoro Cantu, commercialization of the patent through licensing, for example, against the costs of the patent grant procedure. In addition, patent can also lock the chef into reproducing his new technique indefinitely and therefore lead to the opposite effect and be an obstacle to creativity.

Having seen these three-traditional means of protection offered by intellectual property to protect a flavor or aroma, it is important to look at alternative means of protection. Indeed, the means we have seen are subject to strict conditions and can sometimes be unsuitable, therefore, looking for alternative means allows one to consider more suitable or simpler solutions.

2. Alternative protections

Trade secret (2.1), contract law (2.2) or the development of social norms in the culinary field (2.3) are the means considered to protect flavor and aroma in other ways.

2.1. Trade secret

[55] Decision of European Office No. T 0905/99, 11 May 2004
[56] Art 63 of the European Patent Convention and 35 U.S. Code §154
[57] Morgan P Arons, 'A chef's Guide to Patent Protections Available for Cooking Techniques and Recipes in the Era of Postmodern Cuisine and Molecular Gastronomy', (2015) Journal of Business & Technology Law, vo 10, n1, 2015, 137

While in many countries trade secret is included in intellectual property rights due to its private nature, in the UK, secrecy is not appropriated. Therefore, trade secret is perceived as an alternative means of protecting intellectual property rights.

In general terms, a trade secret is a "piece of information about a product that is known only to the company that makes it".[58] In the legal field, trade secret has not the same broad definition as it must fulfill certain conditions to be protected. Members of the TRIPS agreement are submitted to Article 39 which mandates that the information must be secret must have a commercial value and has been subject to reasonable steps to keep it secret.[59] Thus, this information must be commercial and can be applied to a large amount of information concerning formulae, cooking techniques, list of consumers, ingredients and their origins. The common-law countries used to follow the practical method established in the Coco v A.N. Clark decision.[60] The key test that occurs from this decision gives a framework and it must be looked into several elements like the secrecy of the information, the relationship of confidence, the evidence of misuse or disclosure and the ability to define what is alleged to be secret. More recently, a EU Directive[61] has regulated trade secret for European countries which are mandated to provide measures and remedies to deal with misappropriation.

Tastes and aromas constitute an intangible value transcribed in a recipe. This recipe contains the means to achieve the result, often represented by chemical formulas especially for the aromas. Any cooking recipe, be it for smells, perfumes, tastes or aromas, if it is used commercially to be exploited, it undeniably constitutes commercial information. The issue will be focused on the confidentiality of the information and the steps taken by chefs to keep their recipes confidential. Methods to protect the confidentiality of the information are primordial for chefs. They must think about positive duties to protect it, firstly to benefit from the protection and secondly to establish evidence in case of contradiction in a case suit. The first method is to put the recipe in a vault as did Coca-Cola with its first recipe in 1925 and KFC for the "secret recipe of eleven herbs and spices" for its chicken.[62] The second method consists of selecting a number of people who have access to the information. The company limits knowledge about the recipe to its employees like

[58] 'Trade secret, Cambridge English Dictionnary, https://dictionary.cambridge.org/fr/dictionnaire/anglais/trade-secret, (last visited 18 February 2020)
[59] Art 39 TRIPS agreement
[60] Coco v A N Clark (Engineers) Ltd [1969] RPC 41
[61] Directive on the Protection of Undisclosed know how and business information (EU) 2016/943
[62] Barak Zarin: 'Knead to know: cracking recipes and trade secret law', Elon Law Review, (2016)

McDonalds did for the recipe of its "special sauce". For this method, chefs can use physical or electronic limited access, enabling them to control who has access to this recipe. The final method involves the limitation of the ingredients to people who only can reproduce the recipe. This approach may involve the assistance of a certain person or company to accomplish one part of the recipe and another to accomplish the other. The contractors will not have all the recipes, which will greatly limit the risk of appropriation. By considering the use of its methods of keeping a recipe secret, courts will determine whether or not the protection by the trade-mark can be qualified as a "secret recipe". The Court held, for example, that McDonald's "secret sauce" is not a trade secret because the company explained widely on the social network how the public can reproduce this sauce.[63]

The trade secret policy has several advantages, specifically in that it allows chefs to benefit from automatic and unlimited protection when the conditions are met, but it is necessary to be vigilant because judges assess the classification of trade secret on a case-by-case basis.[64] In Vraiment Hospitality LLC v. Todd Binjowski[65], Amelie's Bakery & Café sued the defendants for using its recipe of a salted caramel brownie recipe. The plaintiff argued that the recipe was kept secret and its composition was unique because of its distinguishing taste. However, the Court found that this recipe was found in brownie recipes on the internet, which demonstrates that the trade secret policy is not fully reliable as it is circumstantial and can lead to legal uncertainty. Difficulties to prove misappropriation of a secret recipe can also arise. In Magistro v. J. Lou, Inc,[66] the Court stated that sauce recipes constitute trade secrets but the plaintiff failed to prove that the defendant was using the recipes so he could not benefit from the protection.[67]

In summary, for a cooking recipe, the trade secret policy is not an adequate solution in the protection of a chef's creation. This policy does not contain a complex fabrication method with a combination of unique ingredients. When the recipe is banal, it can be more easily replicated and

[63] Rebecca Edelson, Ximena Solano Suarez and Seong Kim, 'Don't Spill you Trade Secrets: Protecting Your Competititive Advantage in the Food and Beverage Industry', (Intellectual Property Law blog, 17 July 2019), <https://www.intellectualpropertylawblog.com/archives/competitive-advantage-food-beverage-industry-1#page=1>, accessed 3 July 2020

[64] C. Balley King, Jr., Bridget V. Warren, 'Intellectual Property Protection for Recipes', (2019) commercial litigation, For the Defense

[65] Vraiment Hospitality, LLC v Binjowski, Case No. 8:11-cv-1240-T-33TGW (M.D. Fla. Apr. 27, 2012)

[66] Magistro v J. Lou, Inc., 270 Neb. 438, 703 N.W.2d 887 (2005)

[67] C. Balley King, Jr., Bridget V. Warren, 'Intellectual Property Protection for Recipes', (2019) commercial litigation, For the Defense

shared, making it far harder to benefit from trade secret protection. Focusing on the protection of taste and aromas, their recipes are more complex because they are often composed of uncommon ingredients and transcribed by formulas. These complex recipes are more likely to benefit from protection because they are less easily shared and copied. The court may have to be more tolerant when it comes to protecting a recipe composed of very specific products that are difficult to replicate. However, if the recipe of a flavour consists of only two or three ingredients to achieve the flavor, for example, and it is easily reproducible, trade secret might not be as strong.

Perfumers are accustomed to protecting fragrances with trade secrets as perfumes are represented by specific formulae and smell compositions. Aromas and perfumes are quite similar in that an aroma, in addition to bringing a taste, also brings a smell. Focusing on perfumes protection can help in the choice of flavor and aromas protection. The fragrance industry faces a problem today related to trade secret. Clients of fragrance demand more transparency and ask for the disclosure of all information and ingredients of the product.[68] Having to reveal such information conflicts with the benefit of the protection of trade secret, which requires that the necessary means be put in place to keep the information confidential. Chefs or food companies also face a similar dilemma and may also be investigated for a product. In the food sector, industrials must precisely note the names of the ingredients of the products. This information is often requested when a customer has an allergic reaction. The production method or cooking techniques in the creation of a recipe, however, do not necessarily need to be shared. The players in the culinary field may therefore not encounter the same difficulties.

To conclude, trade secret fosters invention and innovation, which is the key in the cuisine field. It has the great advantage to be legal protection, which means that chefs or companies are not obligated to write a contract or accomplish formalities to benefit from the protection as is done in patent law or trademark law. However, it is important to be mindful of ways in which to protect information from misappropriation. Courts used to consider the conditions of the protection on a case-by-case basis, which leads to legal uncertainty. In this field, recipes could be similar or could differ only from one ingredient or method. The result could be the same but the process of production may be distinctly different. The difficulties for the judges to identify what makes a process secret and unique leads one to consider the trade secret as an additional means of

[68] Report 'Valuable yet vulnerable: Trade secrets in the fragrance industry', IFRA, February 2013

protection.[69] It is not because two dishes have a similar taste that judges will qualify misappropriation of a secret recipe. Despite the advantage of flavor and aroma recipes in that they are more complex than traditional recipes, chefs must be extremely careful with this protection. According to a recent study, chefs would not make the effort to keep their recipes a secret because they think that the benefits of doing so are unlikely to outweigh the costs.[70] Sometimes sharing recipes is more beneficial than controlling who has access to them. In his study, Michael Goldman demonstrates how chefs should rely on copyright rather than trade secrets.[71] He is not in favor of the protection of trade secrets because for him cooking should be openly shared, and chefs should be able to share their recipes without fear. He is for the sharing of ideas and creations, but not for their appropriation. Sarah Legal's ideas align with Goldman's in that the trade secret policy has a negative impact on innovation and creation.[72] According to Legal, chefs should not put confidentiality clauses automatically in all contracts as this would block the free sharing and inspiration of recipes. For the two Professors Emmanuelle Faucgart and Eric von Hippel, the owner of the trade secret cannot prevent a person who has obtained a recipe by legal means from making it public. Apart from the severity of the sanctions to be taken into consideration, there will always be a risk that a recipe will be revealed. On the other hand, according to them, this protection is effective in the case of innovative products incorporating technological barriers to analysis or also innovative procedures hidden from the public.[73]

If trade secret is a good means of protection when it comes to marketing a flavor or taste, it should be considered as an additional means, and chefs should consider protecting themselves also through contract law by introducing confidentiality and non-competition clauses.

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[69] C. Balley King, Jr., Bridget V. Warren, 'Intellectual Property Protection for Recipes', commercial litigation, july 2019

[70] E. Fauuchart, E. von Hippel, 'Norms-based intellectual property systems: the case of French chefs', (2006) MIT Sloan School of Management Working Paper

[71] Goldman M., 'Cooking and Copyright : When chefs and restaurateurs should receive copyright protection for recipes and aspects of their professional repertoires', Seton Hall Journal of Sports and Entertainment Law (2013)

[72] Sarah Segal, 'Keeping it in the kitchen : an analysis of intellectual property protection through trade secrets in the restaurant industry', (2006), Cardozo Law Review

[73] E. Fauchart, E. von Hippel, 'Norms-based intellectual property systems : the case of French chefs', (2006) MIT Sloan School of Management Working Paper

2.2. Contract law

Contract Law can necessarily be considered to protect the recipe which transcribed an aroma or a flavor. Contract Law allows one or more parties to be bound by positive duties. These obligations will be written in a clear and precise manner, which will prevent any legal uncertainty. These obligations may be included in a contract provided for this purpose called a confidentiality agreement or may be included in an existing contract. In the latter case, two clauses can be considered: the confidentiality clause or non-disclosure agreement and the non-competition clause.

The confidentiality agreement is a proper contract where one or more parties are binding by a confidentiality obligation. Dedicating a contract to the obligation of confidentiality on recipes obliges the contracting party to exercise great care. With this type of protection, taste and aromas recipes will be better protected. The contract must be drafted in a clear and precise manner and the parties must identify the key points namely the identification of confidential information, carefully restrict the right to disclose the information, identify the binding parties, set out steps of protection.[74] The parties must also have in mind the governing law and the prediction of damages and remedies. For example, a confidentiality agreement can be necessary between a food product manufacturer and a flavor supplier to protect confidential information and costs during the research and development process.[75] This contract will guarantee that any information that is disclosed by the customer belongs to the food product manufacturer. This clause will avoid competition that could impact the food product manufacturer, yet the contract should include that the flavor formulation remains the property of the flavor company's exclusively.

If a specific contract is not provided for this purpose, the chefs or companies that create the flavours and tastes should be vigilant and include confidentiality or non-competition clauses in their contracts. These contracts can be employment contracts between an employer and an employee. These types of contracts are widely used in this sector since it is necessary to employ several employees to be able to reproduce this taste or aroma. When companies are led to export their know-how, concerning the taste of a product, franchise contracts may be concluded. Thus, the franchisor will describe the process used so that the franchisee can obtain the same result. In

[74] Nigel Parker, 'The secret recipe: key ingredients of agreements to protect confidential information', (2006) Journal of Intellectual Property Law & Practice, Vol.6 , 223–229
[75] Dolf De Rovira, Sr. 'Dictionary of Flavors', 3rd edition, Wiley Blackwell, 75

these types of contracts, confidentiality clauses are very often inserted to prevent the employee or franchisee from taking over the manufacturing techniques and competing with the true owner of the information.

Using this form of protection has many advantages. Indeed, the simple fact of identifying confidential information makes it possible to take stock of the information that does not need to be protected. The information that should be protected must be clearly defined so that the persons concerned can ensure that it is not disclosed. This protection provides greater security than the secret policy in which the employee may sometimes be unaware of the confidential nature of the information. Also, such clauses make it possible to adapt to all situations and give more flexibility to the Chefs. Moreover, the contract can ensure that both the discloser and the recipient of the information will be liable.[76] Indeed, a third party who has obtained the information from the first contract violator may appropriate it and establish some competition. For instance, the Chef Cantu established non-disclosure agreements for his secret recipes with his employees and settled a similar agreement for the visitors before entering moto's kitchen.[77] It is therefore important to be able to engage the responsibility of the person who has received the confidential information and who wishes to make use of it.

Contract Law is sometimes used to enforce trade secret. Chefs are not necessarily aware of the steps required to benefit from trade secret and contracting such non-disclosure agreements with the employees help to qualify the confidentiality of the information. The drafting of these clauses can, therefore, help the judge to conclude that the recipe is indeed covered under trade secrecy as the author stipulated in the contract. The secret recipe of Coca-Cola has been for years protected by trade secret law and confidentiality agreements which provide unlimited protection and allows the recipe to be communicated only to those who make it.[78]

However, while drafting a contract increases the legal security of the creator of the taste or flavour, it can be counter-effective if it is poorly drafted. Court used to interpret the contract against the drafting party, who is in this case, the employer. In Ecolab, Inc v. Gartland,[79] the court

[76] Nigel Parker, 'The secret recipe: key ingredients of agreements to protect confidential information', (2006) Journal of Intellectual Property Law & Practice, Vol.6 , 223–229
[77] Emily Cunningham, 'Protecting Cuisine under the Rubric of Intellectual Property Law: Should the Law Play a Bigger Role in the Kitchen' (2009) 9 J High Tech L 21
[78] Germain, Claire M., 'Don't steal my recipe ! A comparative study of french and U.S. Law on the protection of culinary recipes and dishes against copying' (2019), Working Papers. 7
[79] Ecolab, Inc. *v.* Gartland, 537 N.W.2d 291 (Minn. Ct. App. 1995)

invalidated a non-compete provision that protected the employer's IP rights because the redaction was too ambiguous. In BLT Restaurant Group v Tourondel, the language used in the contract to define "confidential information" and "proprietary material" was unclear and the Court ordered further proceedings to establish if the employee was authorized to use this type of information. Besides, according to the rule contra proferentem, when a dispute arises between the two-contractual party, the Court will interpret the contract to protect employees at the expense of the employer.[80]

While Contract Law generally provides effective protection for recipes of aromas and flavors, others envisage another type of protection that would be specific to the culinary field.

2.3. Domain-specific solutions

In the absence of copyright protection of recipes, some culinary field workers have considered establishing codes or standards that would be specific to the chef. Chefs who match some criteria and fall within the scope of a code are binding by code of ethics and cannot copy another chef. The main purpose of these new norms is to prevent misappropriation of proprietary information without facing issues of evidences proving that the information was kept secret, avoiding all legal intervention. Ethical codes can be numerous because they depend on the organizations and culinary associations with which the chefs are associated. It seems unlikely that there will ever be a single set of rules at the international level.

In general, chefs are in favor of these standards. The French bakery chef Cédric Grolet, who has imposed his style over the years with his fruit-shaped creations, would like any chef who is inspired by his creations to mention that it comes from his inspiration. Chef Cantu says he is honored when chefs use his recipes in a socially responsible manner but verifies that patented gastronomic technologies are used under license.[81] Chefs are proud when other chefs are inspired by their creation and ask them for the cooking process or techniques. They are often in respectful and trusting relationships, and when chefs have doubts, they do not divulge their recipe.

[80] Sarah Segal, 'Keeping it in the kitchen : an analysis of intellectual property protection through trade secrets in the restaurant industry', (2006), Cardozo Law Review

[81] Christopher J. Buccafusco, 'On the Legal Consequences of Sauces: Should Thomas Keller's Recipes Be Per Se Copyrightable?', (2007) 24 Cardozo Arts & Ent. L.J. 1121

There are several codes of ethics in the culinary field. The best known was created by the International Association of Culinary Professionals. This association is a United States-based association of members from the culinary field as chefs and restaurateurs, nutritionists, or food writers.[82] The code is intended to apply only to members of the association and establishes several rules, one of which is to respect the intellectual property rights of others and not to use them for professional or financial purposes without their consent. It is intended to apply only to members of the association and establishes several rules, one of which is to respect the intellectual property rights of others and not to use them for professional or financial purposes without their consent. On the other hand, the code promotes the growth of knowledge and the free exchange of ideas. The American Culinary Federation favors education, apprenticeship, and certification in the culinary field. The Federation also settles some rules, reunited in the Code of Professional Ethics, that promote respect and integrity in this domain.[83]

In 2006, Professors Fauchart and von Hippel have conducted some research on these new ethic norms and have identified three implicit and social norms to protect a chef recipe.[84] The particularity of these norms is that they are not written down but may widely be known by the culinary community. After interviewing French chefs, the two professors established three main social norms.[85] The first prohibits a chef from copying exactly another chef's recipe. The second prohibits a chef who has received confidential information about a recipe from passing it on to others without permission. The last one obliges colleagues to credit developers of significant recipes as its author. These three standards would form the basis of the ethical rules and would be widely known to all great chefs, since they are relatively simple to remember. These rules are only social and not legal norms and may have helped to ensure the authorship of chefs' creations. Moreover, the penalty is quite severe for the person who reproduces someone else's recipe, which can destroy one's reputation as a result of a breach of trust. The study conducted by Fauchart and Hippel also proves that chefs are more likely to share their recipes with other members of the

[82] International Association of Culinary Professionals, < https://www.iacp.com/>, accessed 16 July 2020

[83] Code of Professional Ethic, American Culinary Federation's Certification, (2008) For ACF Certified Cooks, Chefs and Educators

[84] Sarah Segal, 'Keeping it in the kitchen: an analysis of intellectual property protection through trade secrets in the restaurant industry', (2006), Cardozo Law Review

[85] Fauchart E. and Von Hippel E., 'Norms-based intellectual property systems: the case of French chefs", MIT Sloan School of Management Working Paper 4576-06 January, 2006

culinary community, and are willing to participate in the idea of open-source and sharing recipes.[86] Finally, the last argument of Fauchart and Hippel shows that the adoption of these standards is useful. Most of the great chefs are employed in large restaurants or hotels. However, intellectual property rights would tend to revert to their employers, i.e. the employers of these hotels and restaurants. Adopting such social rules allows the chef to be valued, and it is up to him to judge whether another chef has reproduced his recipe.[87]

Segal developed major critiques of these social norms established by the two professors.[88] Firstly, this study was centered on chefs in the Paris region and is not representative of the culinary field worldwide. Sanctions for the chefs of the Parisian culinary community are certainly effective, but according to them, this situation is not realistic for other communities. Secondly, this solution does not require a fair financial solution and depends solely on the behavior of individuals to comply with these rules. For Meredith Lawrence, these standards may be effective, but they only apply to those who are part of the community.[89] There is an even greater risk of being copied by people who are not subject to these social norms because they are not considered chefs. Moreover, since it is often a state organization, a French chef could copy an American chef without receiving any sanction because he would not be subject to the same code of ethics.

Since the recent development of cooking blogs, it may seem paradoxical that, on the one hand, chefs want to share their recipes and, on the other hand, do not want a third party. A chef must be able to control the circulation of his recipes and even if he shares it for his community, an internet user is not entitled to appropriate it to market it.[90] As in the world outside the internet, some communities govern the standards of the culinary world on the internet.[91] The famous one is the food blog Alliance which asks web users to put each time the links of the original recipe if the second one was inspired by it or if it simply refers to it.

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[86] Fauchart E. and Von Hippel E., 'Norms-based intellectual property systems: the case of French chefs", MIT Sloan School of Management Working Paper 4576-06 January, 2006

[87] Fauchart E. and Von Hippel E., 'Norms-based intellectual property systems: the case of French chefs", MIT Sloan School of Management Working Paper 4576-06 January, 2006

[88] Sarah Segal, 'Keeping it in the kitchen : an analysis of intellectual property protection through trade secrets in the restaurant industry', (2006), Cardozo Law Review

[89] Meredith G Lawrence, 'Edible Plagiarism: Reconsidering Recipe Copyright in the Digital Age' (2011) 14 Vand J Ent & Tech L 187

[90] Claire M., Germain, 'Don't steal my recipe ! A comparative study of French and U.S. Law on the protection of culinary recipes and dishes against copying' (2019), Working Papers. 7

[91] Barak Zarin: 'Knead to know: cracking recipes and trade secret law', (2016), Elon Law Review

For some commentators, none of the protections are satisfactory, and a new regime should be invented or the scope of an existing regime expanded.

3. Concrete proposals

All the proposals focus on extending copyright to culinary creations (3.1.) More recently, a French proposal on the protection of culinary creations and recipes has been tabled before the legislative body. (3.2.)

3.1. Extension of copyright to the culinary field

Researcher Malla Polack wrote a proposal in 1991 to extend copyright to the culinary field.[92] For her, food and art are closely related, so there could be a new category of art called food that would include aromas, tastes and textures. It makes it clear that it is a matter of protecting the creation itself and not individual copies of the creation. Therefore, the appearance, smell, taste and consistency can be protected. According to her theory, when judges have to look at the resemblance of the two dishes to see if there has been a reproduction, they will have to compare them and see if they look the same, taste the same or if the differences are obvious. The court will then have to set a criteria that will serve as a precedent. Even if method this may lead to a subjective view, the question of subjectivity is expected in protected art. On the other hand, his theory will not contravene the rule that an idea cannot be protected by copyright. Taste sensations may not be protected because they are equated with ideas, but this will not always be the case. According to her, the final cake or its taste may be protected, but not the method to achieve it, nor the concept of taste sensation. Austin Broussard joins this idea by considering that it is a matter of protecting the creation itself and not individual copies of the creation.[93] Therefore, the appearance, smell, taste and consistency can be protected. He would propose to develop intellectual property protection of culinary dishes, as "applied art" under the Copyright Act and not recipes. Contrastingly, Meredith

[92] Malla Pollack, 'Intellectual Property Protection for the Creative Chef, or How to Copyright a Cake: A Modest Proposal', (1991) 12 Cardozo L. Rev. 1477

[93] J Austin Broussard, 'An Intellectual Property Food Fight: Why Copyright Law Should Embrace Culinary Innovation' (2008) 10 Vand J Ent & Tech L 691

Lawrence prefers the protection of the recipes themselves, but with the introduction of a copyright licensing organization to supervise and help the creator know what rights are attached to the license.[94] For all these authors, extending copyright to recipes and culinary creations will not be an obstacle to the free exchange of ideas since, at the end of the protection, the rights will fall back into the public domain and anyone will be able to appropriate them.[95] For all these authors, extending copyright to recipes and culinary creations will not be an obstacle to the free exchange of ideas since, at the end of the protection, the rights will fall back into the public domain and anyone will be able to appropriate them. The distinction between what is protected and what is not will be clearer in the eyes of the public, thus ensuring legal certainty.[96] These different conceptions run counter to Nimmer's view that a recipe by its very nature has a functional element and that, consequently, the condition of originality cannot be met in order to benefit from protection.

While these propositions encompass the dish in general and do not distinguish between its perceived gustatory or visual form, they may seem inadequate when it comes to taste or aroma, which is still very difficult to copy, as taste and aroma are ephemeral and non-aesthetic.

3.2. French proposal to protect recipes

On April 30th 2019, the French MP Céline Bondard tabled a proposal n°1890 before the assembly to protect recipes and culinary creations. This sui generis right is hybrid in that it resembles copyright law with the condition of originality and to the regime of patent law on with the short duration of protection.[97] This proposal aims to introduce the National Institute of Culinary Creations, which would be responsible for managing the information necessary for the protection of culinary creations and for examining and registering applications from chefs.[98] The chef who wishes to obtain such a certificate will thus have to apply for it and present the institute and present

[94] Meredith G Lawrence, 'Edible Plagiarism: Reconsidering Recipe Copyright in the Digital Age' (2011) 14 Vand J Ent & Tech L 187

[95] Christopher J. Buccafusco, 'On the Legal Consequences of Sauces: Should Thomas Keller's Recipes Be Per Se Copyrightable?', (2007) 24 Cardozo Arts & Ent. L.J. 1121

[96] Christopher J. Buccafusco, 'On the Legal Consequences of Sauces: Should Thomas Keller's Recipes Be Per Se Copyrightable?', (2007) 24 Cardozo Arts & Ent. L.J. 1121

[97] Germain, Claire M., 'Don't steal my recipe ! A comparative study of French and U.S. Law on the protection of culinary recipes and dishes against copying' (2019), Working Papers. 7

[98] Assemblée Nationale Website, French law proposition, (2019) <http://www.assemblee-nationale.fr/dyn/15/textes/l15b1890_proposition-loi>, accessed 5 August 2020

them with a complete list of ingredients and the instructions for making this dish. This application for registration is less restrictive than the application for registration of a patent, which requires a detailed scientific description. In addition to the conditions of novelty and creative activity, a special condition is also included in the proposal: the culinary creation must have its taste. This means that it must give an overall impression that has not already been tasted. If the conditions are met, the chef will be issued a certificate of culinary creation for 20 years from the date of application. This proposal was referred to the Committee on Cultural Affairs and Education.

This new proposal, which for the first time takes into consideration the gustatory nature of culinary creation, is noteworthy for our subject. The flavour and taste of the product will prove to be at the heart of the protection of culinary creation and therefore can be protected along with the aesthetic aspect of the creation. However, taking inspiration from existing rights and their conditions, one would think that it meets the same obstacles.

4. Legal advice

Above all, as far as copyright is concerned, chefs need to understand precisely what they want to protect and under what conditions. As seen before, copyright protects works of the mind that are original and materialized, therefore, ideas and concepts are not protected, but only the works that result from them. Cooking recipes are a process, a method of manufacture and therefore cannot benefit from protection. A taste concerns the final result of the creation and if it is original, it could have benefit from this protection. European law, however, excluded it in its famous Levola decision. By reasoning by analogy, a flavour or aroma that derives directly from taste could therefore also not be protected by copyright. In the author's view, this is a good decision and relying on copyright protection would not be relevant for three main reasons. Firstly, the taste is perceived as the final part of creation, but does a chef want to preserve taste from being reproduced? It is very complicated to prevent a taste from being reproduced because it is perceived differently by people and it is very rare to arrive at exactly the same taste without having the recipe. A chef will logically seek to obtain the protection of his recipe. Otherwise, it will be very difficult in all cases to obtain the exact taste of a creator without having a recipe and aromas result from complex chemical formulas. It is very rare to be able to achieve the same natural blackcurrant aroma giving the taste of new chewing gum. Secondly, and as the Court of Justice of the European Union justifies, flavour

or aroma cannot be identified with sufficient precision. A taste is ephemeral and can change according to temperature, humidity, etc. It remains difficult to imagine judges in court, in a flavour reproduction case, tasting a product to compare it with the original and concluding that it is a reproduction. If the judges have to review the case, the taste of culinary creation may have changed in a few months. Thirdly, a taste or flavour is a notion that is very subjective. Depending on one's memories or perceptions, the tasting will not be the identical. A taste can be very original for some and not for others. What criteria will judges use to determine whether a taste is original? Chefs will then find themselves in a legal uncertainty since they will not be able to know in advance whether their taste creation will be judged as original. The proposals seen in the previous chapter would be more relevant if we discussed culinary creation in its entirety. Visually, a chef's dish or pastry is more easily replicated and in this case, the power of prohibition offered by copyright would make more sense. In addition, since this proposal would affect both the patent and copyright regimes, chefs would face the same difficulties regarding the conditions of originality, but also regarding the term of protection. Due to the nature of a flavour or aroma, copyright seems, in addition to being excluded by European legislation, inappropriate for chefs and companies.

Trademark Law legislation is a little less obvious as to the protection of a taste. There is nothing in European law that formally prohibits the protection of taste in trademark law. Trademark law confers a monopoly of exploitation for a certain product or service of the associated trademark. The registered sign thus enables a company to distinguish its products or services from those of its competitors. In our case, the registered sign would therefore be a taste. Under European legislation, this sign must be available, but above all, it must be distinctive. In the opinion of the author, there are several problems with the registration of a taste as a trademark. The first concerns the distinctiveness of the taste sign. Indeed, it must be clearly and precisely identifiable so that it can be easily recognized in the eyes of consumers. However, it is difficult to describe a taste in a very precise manner, which is by nature very subjective. According to court decisions and my opinion, scientific means do not allow a flavour or aroma to be described graphically well enough in an objective manner. The second problem is that, as very few taste marks are registered, consumers do not have a sufficient range to find the origin of the product or service. They may not be able to identify which brand it is. Thirdly, trademark law does not protect a recipe. Even if a taste mark were to be registered, it would not prevent someone from taking the recipe to achieve the taste

protected by the mark. This protection would only make it possible to prohibit the marketing of a taste under the same brand name. On top of that, trademark law does not prohibit the same taste from being reproduced if the manufacturer does not market it under the same name. In conclusion, a chef who wishes to protect a taste will not automatically be interested in this protection since he will want his recipe to be protected. Moreover, as far as the food industry is concerned, companies will not be interested in trying to register a trademark, which will only be protected for a name, all this at the risk of refusal for a lack of sufficient description. For these reasons, Trademark law should therefore not be considered by chefs or companies.

In contrast to trademark law, patent law provides more extensive protection. Indeed, by protecting the taste of a food product through patent law, its recipe is protected by analogy. Apart from the recipe, the manufacturing method or even the new equipment used to achieve the taste result can be patented. For utility patents, the invention must meet the conditions of utility, novelty and non-obviousness. These conditions exclude a certain number of recipes from protection. The chef or company that can patent its invention is the one who has some knowledge of innovative cooking techniques and who can bring a real utility to science. A recipe that merely transforms or mixes ingredients without any addition will not be patentable. In certain fields, such as molecular cooking, a patent can be a very good means of protection. Molecular cooking is very closely linked to science. From this point of view, it is therefore more obvious for the chef to do research, to describe his invention scientific and to demonstrate that, scientifically, he brings something to the state of the art. In this field of molecular cuisine, the chef will also be able to patent the manufacturing process used. The patent would therefore be a satisfactory means of protection in certain fields where the processes are technical and where the taste brings a real innovation. However, the patent has some disadvantages. The first concerns the description of the invention. The chef will surely have to employ scientists who will have to transcribe the innovation in writing to fulfill the conditions of a patent. However, the taste is by nature a subjective element and it may be difficult to describe objectively and in scientific terms the object of protection. The procedure is rather long and expensive. The innovation will not be protectable in the month following its invention, but it will be necessary to wait a year and a half. Finally, the term of protection of a patent is 25 years, which is a rather short period compared to copyright which grants 70 years of protection. At the end of the protection, the invention falls into the public domain and anyone can

copy the invention. Despite these drawbacks, if the company or chef seems to have created an innovation related to a flavour or aroma, he should patent it. Companies in the food sector will have less difficulties because they have more financial means than self-employed, lesser known chefs who wish to patent their recipes. If it is a real contribution, the chef will be able to control its use, license it and get an additional source of income. Concerning the term of protection, he will still be able to use the basis of the invention that has fallen into the public domain to create a new one, bearing in mind that in the field of food, novelty is very often demanded by consumers.

The protection of trade secrets is often the most recommended for culinary recipes. It is called alternative protection because in common law it is not a private right. It is governed by international law and then European law, which imposes very few conditions. It must be confidential information with commercial value that has been subject to steps to be protected. These conditions are perfectly applicable to the protection of recipes. Unlike Patent Law, which involves a cumbersome procedure, protection of trade secret requires very little financial means. Moreover, it has no formality and is therefore a quick and effective protection for the various taste creators, i.e. the chef of a restaurant or a company. Within the company, it may be easier to keep the recipe confidential if a division is working on a new recipe for a future drink. As the roles are clearly defined by contracts, especially for the mission, it will be easier to control the flow of information. In a restaurant, know-how is often passed on orally, without necessarily being written down. Many employees, particularly in large hotels or restaurants, may be aware of the chef's new secret sauce and may be led to appropriate it later. In this case, the employee will likely lack the evidence to prove that he or she did what was necessary to protect the information and that misappropriation did occur. Some companies are developing restaurant chains around the world or, like Ladurée or Paul, their shops abroad. To develop, these companies need to pass on the know-how of culinary creation. If this know-how is secret, it can then be protected by trade secrecy, which proves to be adequate protection in this case. Persons abroad who reproduce the know-how will have to keep the recipes secret at the risk of liability. In the opinion of the author, it is important to rely on trade secret for three reasons. Firstly, it is a protection that applies automatically when the three conditions are met. These conditions are much simpler to meet than the condition of originality in copyright law, or the condition of non-obviousness to obtain a patent, which requires a case-by-case assessment by the judge. Major chefs and employers must be informed of these

conditions and must identify confidential information in order to put in place steps to protect it. This protection is only effective if it is understood and respected by persons concerned. It is very important to be able to control the circulation of information because once the secret is revealed, the benefit of protection immediately disappears. The second is that if the parties have a contractual commitment and it is poorly drafted, they will always be able to rely on trade secrecy. In a franchise agreement, one of the main elements of the contract being confidentiality, evidence concerning the terms of trade secrecy will be easier to provide. Finally, trade secrecy is designed to protect a much broader range of confidential information than all intellectual property rights. With this new protection, a restaurant will be able to protect its customer file, its new cooking techniques, its recipes, or cooking methods. The protection of all this information makes it possible to conclude that trade secrecy is the best protection against unfair competition in the restaurant industry.

The contract is not a means of intellectual property but can still serve as effective protection. Indeed, confidentiality agreements or non-disclosure clauses are very often concluded between chefs and apprentices, or employees in a company. Such protection is widely recommended if a chef wishes to protect his recipes or to exclude unfair appropriation and competition. In all contracts, there should be a sufficiently precise clause stating that an employee may not divulge the know-how passed on to him or her. The main advantage of using contractual clauses is that the contracting party can decide exactly what information is involved, the recipients of the information, the sanctions, but also other elements such as the duration of confidentiality, the effects on termination, jurisdiction and so on. The other advantage is that a third party can be contractually bound, i.e. if it uses confidential information, it will also be liable even though it only received the information. Establishing these clarifications provides a degree of legal certainty, especially as the case law is easy to find. In the food business, these contracts are very frequently drawn up by a group of lawyers. On the other hand, in restaurants, when a new apprentice arrives or when there are replacements, it may happen that the contractors do not provide for this clause or that it is poorly drafted. Indeed, in this second sector, contracts are often renewed and the know-how is passed on to several people. The contract could therefore prove ineffective in protecting all recipes. One of the main risks of using the contract is to draft it badly. If the confidential information is poorly defined or if the parties are not precisely identified, the protected recipe will be at risk of being disclosed. Otherwise, the sanction may not be effective for the person who appropriates a recipe and decides to market it behind it. In addition to the confidentiality or non-disclosure clause, there

is the non-competition clause. This clause is especially useful for apprentices or trainees in restaurants who stay for a few years and have acquired a lot of know-how. It is therefore very important in this sector to provide for contracts. The author recommends that these two types of contractual clause be drafted with the help of lawyers or legal experts in the field to avoid ambiguity and any misinterpretation by the courts.

The code of ethics makes it possible to avoid going through binding rules and to favor social standards. This protection is effective for chefs belonging to the same community because no leader wants to have a bad reputation and trust is important in this environment. Furthermore, it is a protection that keeps the sharing of ideas alive, as the chefs continue to confide in each other and exchange recipes. The author is in favor of the proposal put forward by Fauchart and von Hippel because the three standards they have developed are easy to understand and they can be applied by an entire community that can extend to more than one territory. This protection would make it possible to avoid numerous copies, and would help to relieve the courts of their workload. In addition, chefs would exchange ideas, the creator would say by who he was inspired by. There should be additional protection because the community covered by these standards only includes great chefs and not small chefs who do not meet the criteria or people who are not from the community but who want to make use of their recipes. Besides, if the chef wants a financial penalty, he will have to go through another protection since this only has the effect of removing the chef from the community. An ethical code specifically dedicated to the taste sector should, in the author's opinion, be established. As aromas and flavors are complex and specific, they should not be confused with the whole range of culinary creations which are easier to copy. A file with all types of flavours could be set up so that chefs in the sector know which taste or flavour is used and for which recipe. This register could also be used by companies that used to market the new taste of a product. Unlike intellectual property rights, these rights apply to a community without the need for special formalities. Moreover, there is no term of protection. For these reasons, an ethical code within a community of people looking for new flavours can be a step forward in protection.

Finally, to conclude, the author is not in favor of the French proposal on the introduction of a culinary certificate. By introducing a system based on copyright and patent law, same issues posed by these current systems will be found, namely the relatively short term of protection and

the subjective assessment of the specific gustatory character. How can these conditions be assessed when everyone perceives a taste or flavour differently? One may also wonder how to proceed with a previous search.

Conclusion

In conclusion, the protection of a taste or flavour is not the same as protecting the totality of culinary creation, which is aesthetic. This study shows us precisely the difficulty of finding protection for the specific characteristics of a taste, which is ephemeral and invisible and subjective. If the aroma, which is linked to smell, differs from the flavour, which is linked to taste, in the end, there is not so much difference, since what is interesting is the protection of the recipe. However, this recipe will generally include a set of ingredients, chemical formulas, and cooking methods that have to be protected. These elements constitute an economic value that must not be disclosed to other people who might not be able to take it over. Intellectual property law is certainly an exclusive right granted over an intellectual creation, but it is also a negative right in that it makes it possible to prohibit third parties from using or marketing it. This is what interests us. However, these rights require conditions and have specific regimes that are not always in line with any creation. Moreover, we must bear in mind exactly what we intend to protect, who protects it, and how to protect it. Indeed, a chef who wishes to protect a recipe will not be advised in the same way as a company in the industrial sector that intends to protect a new chemical formula to end up with the flavour of ice cream.

Although copyright is excluded for recipes in general, it is not possible to use it to protect a taste or flavour. The proposals made by commentators can be understood if culinary creation is considered from an aesthetic point of view. Trademark law is not appropriate because it is rare to want to protect and exploit an aroma or taste under a name alone. Patent law is adequate protection for chefs that brings real novelty to the state of the art. Chefs who use molecular gastronomy have a better chance of obtaining a patent as this field is intrinsically linked to science. The patent may also be of interest to companies in the food sector such as Nestlé or Danone, which can deploy a group of experts to describe the formula of a flavour or aroma in a precise and objective manner.
As the patent has a relatively short term of protection, some will prefer to use trade secrets, which have an unlimited duration, as long as they are kept secret. In the opinion of the author, this protection should always be preferred if a creator wishes to protect his or her recipe. Although there is legal insecurity due to lack of evidence or a case-by-case court decision, in the opinion of the author, it should not be neglected because it allows the author of the reproduction to be prosecuted. On the other hand, the law of contracts allows personalized protection, according to the needs of

the contracting parties. Finally, the development of social standards is to be welcomed because it would bring together the entire community in this field and would allow the chef to share ideas and recipes while taking into account previous creations. The food sector must remain a sector for the exchange of ideas and recipes because it allows novelty and innovation. This protection is interesting because it is based on the confidence of chefs. Chefs tend to taste their dishes and give tips on how to improve, thus advancing the state of culinary creation. In the field of taste, it is rare for someone who has little knowledge about ingredients and cooking techniques to succeed in reproducing the same recipe. Elaborating recipe protection based on trust within a community is therefore a good solution since the reproduction of recipes is relevant for chefs who have some experience. According to the author's opinion, it would be preferable to create an association or federation in the gustatory and sensory field that would establish rules specific for this community.

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