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Culinary Constructivism and Note by Note Cooking

Pierre Gagnaire
Restaurants Pierre Gagnaire: Bordeaux, Chatelaillon, Courchevel, Danang, Dubai, Hong Kong, Las Vegas, London, Nîmes, Paris, Shanghai, Seoul, Tokyo

At the end of the 1990s, because I had the feeling that molecular gastronomy could be usefully applied for the modernization of cooking, I called Hervé This … at a time when he had just been invited by the president of the French Academy of Sciences (Guy Ourisson) to deliver a lecture on molecular and physical gastronomy during a working dinner. We decided to mix his lecture with an “innovation dinner”, and we worked together in order to put some of his applications of molecular and physical gastronomy (inventions) “into culinary art”.

After this very successful “Science and Cooking Dinner” was served in November 1999, we decided to collaborate on further works, and this was my “Menu of the Year 2000”.

But, as the ideas were many, we soon decided to proceed with one idea per month. Since then, the new food preparations invented monthly by Hervé are described on my internet site (www.pierre-gagnaire.com/pierre_gagnaire/pierre_et_herve) before he publishes them elsewhere. Using his explanations, I turn these proposals into real dishes that are served in my various restaurants around the world. My recipes using these new ideas are published on my internet site, demonstrating for 20 years now how culinary art and molecular and physical gastronomy can usefully collaborate.

Of course, explaining all this material would make a whole book, and it is not possible to discuss everything here, so I shall focus on three examples only before giving a shortened list of our published works, with brief explanations.

Debyes

In some cases, I ask Hervé about solutions to culinary issues, but generally, he sends me a text explaining a new idea that he has had. For example, for the preparations that he invented under the name “debyes”, here is the text that he sent me first:

My dear Pierre

You know how much I love this egg yolk cooked at 67 °C: it has an orange color that reminds me rather of the raw yolk than the cooked egg yolk (tough, dry, sandy), but, especially, it has more the softness of a yellow at 65 °C (that I introduced years ago under the faulty name “perfect egg”), and it does not yet have that hardness of a yolk cooked at 68 °C or so.

For me, who am neither a cook nor perfectly certain of my real greed (I love probably too much science, equations, calculations!), I see in this yolk at 67 °C the question of its viscosity: why is it so? And I have promised myself for a long time to test the hypothesis that I proposed more than fifteen years ago: I think that, since only a minority of proteins have coagulated at 67 °C, we have not formed a fully gelled system throughout the mass, but only gelled aggregates; because of this, this system is “pasty” (a “suspension”) because the continuous phase where the aggregates are dispersed is liquid. The viscosity is increased by the presence of said aggregates.

Is it an “ointment”? No, because this type of system has a fatty phase, and not aqueous one, where essential oils are dissolved. So what is it? The word “batter” is too broad, since it also designates pie dough as well as various suspensions. Here, one could of course speak of a suspension of microgels in aqueous phase, but it would be too long, and I proposed to name it “debye”, after the Dutch physicist Peter Debye (1884–1966). When the dispersion is in an aqueous solution, we have “hydrophilic” debyes, but when the dispersion is in the oil phase, then they are “hydrophobic” debyes.

Generalization

But this distinction that leads me to use words with more than three syllables derails gluttony, and we will remain with the debyes. How can we make them in practice? We have seen that we need a liquid, which can be wine, orange juice, spirits, alcohol, cider, beer, but also coffee, tea, broth … or oil, whether from almonds, olives or pistachio, or even melted butter, melted foie gras, melted cocoa butter.

In this liquid, we have to disperse gelled aggregates. Why not start from a jelly that we have divided, using a mixer? For example, let’s start with a velouté to which we will have added agar-agar; let’s take it, then mix the gel formed in oil. We obtain a preparation that can be smooth as an ointment: a debye.

Moreover, since we have previously macerated products that have a lot of flavour in oils, why not use them. In sweet as in salty. As for the gelling agents, there is plenty of choice, between gelatin, agar-agar, but also all the others, such in flans, mousses, terrines, where the proteins meat, fish or egg gel!
Here, I dream: a ground citrus jelly in a beautiful olive oil? Or a chicken stock jelly with vodka in melted butter? Or a lemon tomato gel and added vodka in a sunflower oil in which lemon zest was marinated?

But I hasten to stop, because you know that my culinary art is nil, and these proposals were above all smiling provocations, attentive and friendly invitations.

Starting from this kind of text, we often have a meeting, including Michel Nave, who has been my sous-chef now for more than 35 years, and after a small technical discussion, the issue is to transform the proposal into a real piece of culinary art, a dish that will be served in the restaurants. Of course, questions like the particular season when this dish is served are important, as well as whether the proposals are practically possible in the specific environment of restaurants. Sometimes, too much work needs to be performed correctly for all the guests, but sometimes, also, I don’t see the new possibilities that well. Culinary art is based on sensitivity, not entirely on reason!

In the following, I give the three recipes that were published for the debye proposal, but of course, there are many other possibilities!

**Debye Raspberry/Basil**

For the basil oil:

- 100 g of sunflower oil
- 10 g chopped basil leaves

Macerate the whole 48 hours before filtering by pressing on the chopped leaves.

For the raspberry gel:

- 250 g of raspberry
- 100 g of spring water
- 30 g of sugar
- Agar-agar (24 g/L)

Mix the raspberries, the sugar and the water. Filter, and add agar-agar. Let the gel harden in the cold.

Final step:

- For 250 g of raspberry gel and 40 g of basil oil: mix the gel by gradually adding the basil oil until you obtain a smooth and creamy debye.

**Debye Capers/Anchovies**

For the anchovy oil:

- 40 g of sunflower oil
- 20 g anchovies

Grind the anchovies with the oil until you get a perfectly smooth paste.

For the caper/chive gel:

- 200 g of egg white
- 30 g capers desalted with clear water

- 10 g chopped chives

Mix egg whites, capers and chives. Cook the whole covered in a steam oven at 85 ° C for 15 minutes. Uncover and let cool completely.

Final step:

- Mix very finely the caper/chive gel while gradually adding the anchovy oil. If necessary, pass the apparatus through a sieve to obtain a perfectly smooth debye; and add some pepper or a pinch of Espelette chili.

**Debye chocolate/orange**

For the orange oil:

- 100 g of sunflower oil
- 5 g of grated orange peel

Mix the two elements and let macerate before filtering.

For the chocolate gel:

- 4 whole eggs
- 20 g unsweetened cocoa powder
- ¼ liter of milk
- 70 g of sugar

Blanch the eggs with the sugar, add cocoa, mix well, finish with milk. Put it through a fine sieve into bowls, cover and steam cook at 85 ° C for 30 minutes. Uncover at the end of cooking and let cool completely.

Finishing:

- 200 g of chocolate gel
- 20 g of orange oil

Mix the chocolate gel by gradually adding the orange oil to get the debye.

**Diracs**

Diracs is an old invention of Hervé as well. Again, the text by Hervé is given before the recipes are explained.

My dear Pierre,

I told you before that in vitro cultivated “meat” is being proposed for 1991, and regularly shown, in particular during the summer, when political news is scarce. It sparked debates, some saying that, finally, we can stop slaughtering animals, other saying that it is not meat (and this was recognized at the state level recently in some countries), others still highlighting the exorbitant price of “steaks” produced …

In short, once again, we were treated to a great hysterical hustle and bustle … whereas “artificial meat” was invented a long time ago: I published it on your internet site, but also in my book Course of molecular gastronomy N° 1: science, technology, culinary technique, which relations? (Editions Quae / Belin: a manual of technology and innovation, with hundreds of my inventions described), the description of what I had called “fibrés”, which are actually a reproduction of meat tissues.
Meat? It is made of “fibers” gathered in bundles, the latter being gathered in superbundles, and so on. Individual fibers are “pipes” made of a “skin”, the collagogenous tissue, with, in the center, water and proteins. And so hollow noodles filled with a jelly gelatin, glued together by gelatin, make a physical system similar to meat: this is what I called “fibres”.

But we can make other systems that “reproduce” the meat, including the “diracs” that we are discussing now.

Let’s start from the following observation: meat is made of 75 percent water and 20 percent proteins, plus fat, as a first approximation. So if you make a batter with six spoonfuls of water and four spoonfuls of proteins, and if you cook this mixture, you get a system that is similar to meat, in particular from the nutritional point of view.

Proteins? Not just any! Proteins that coagulate are needed: for example, egg white proteins (powdered egg white), milk proteins (but not just any), or vegetable proteins … since it has been known since 1801 that certain plants (peas, lentils, for example) contain appreciable quantities of proteins, formerly called “vegetable albumen”.

In short, it is not difficult to take eight spoonfuls of water for every two spoonfuls of proteins, and to make a paste that is heated in a pan, with a drop of oil so that the preparation does not stick to the pan. Oil: besides, can be added to the water and protein mixture, so that it adds some tenderness.

Obviously, we must not forget the flavor: it is true that the cakes produced according to the process described above will have no flavor if we use water, proteins, neutral oil. However, for water, it is better to replace it with “water that tastes”: wine, broth, orange juice, coffee, tea … For the oil, we can very well take a scented oil. For proteins, we discussed it earlier. And we can also add products to give color, taste (salt, sugar …), smell (a beautiful essential oil …).

Then, when the object has been produced, it can be cut, fried, grilled… In short, you can have fun cooking.

For example, if, instead of baking it en masse, you poured the initial dough on a baking paper, and you scraped the layer formed with a comb, and then baking, microwave oven or steam oven would give you fibers; if you rolled the fibred leaf on itself, you would get something similar to the bib … or the surimi, since it is by this simple technique that we produce the sticks which are often colored with paprika and scented with crab.

But here, I must stop, because the question is now one of culinary art!

What to do with this? If the consistency question is easy to solve, the main one is the flavor. Indeed, this recipe was among “note by note” proposals (see other chapters in this book), and we wanted to use the innovative odorant compounds in solution that one can now find on sale. At the very beginning of the note by note adventure, we relied on odorant preparations prepared by the Mane company, each bottle of their box being made of pure oil, with no flavor, and only one odorant compound. Here, the product called “Mane N° 1” is a solution of benzaldehyde, with a flavour between almond and cherry or pistachio; today, you could use the Amerise product by the company Iqemusu.

### Dirac Compact

**Ingredients:**

- 100 g milk
- 30 g egg white powder
- 60 g sugar
- Mane N° 1
- 1 lime
- Icing sugar

**For the crystalline lime**

Peel the limes, and freeze them before making very thin slices using a ham machine.

Add sugar to both sides of the lime slices and bake at 100 °C until they are crispy leaves.

Keep away from moisture.

**For the compact dirac**

Mix sugar, milk, egg white powder, flavour with Mane N° 1 and the lime peel.

Mold into a greased baking sheet about 1 cm thick, steam cook at 60 °C for 15 minutes.

Unmold on leaving the oven. A consistency between marshmallow and lemon cream is obtained.

Cut using a 4 cm cookie cutter and dip each disc in the icing sugar before serving between two lime crystallines.

### Fibrous Dirac 1

**Ingredients:**

- 200 g tasty and seasoned beef broth
- 150 g of egg white powder
- 40 g of olive oil
- beetroot powder

Mix all the ingredients in order to obtain a homogeneous paste (avoid foaming). Let stand for approximately 1 hour.

Three different consistencies can be made:

**First process:**

Spread on a greased silpat and cook in a 60 °C steam oven for 10 minutes.

Two possibilities are proposed:

- after cooking, roll the sheet obtained on itself to form a roll about 3 cm in diameter. Then cut into slices 0.5 cm thick. A soft, slightly fibrous gelatinous texture is obtained. It is to be used in the next dirac recipe.

**Second process:**

In a mold 10 cm in diameter, put 1 cm of the first preparation, and steam at 60 °C for 15 minutes. When it is cooked, the consistency is the same as for a flan; stir in fresh butter until you get a tender inner part inside a dry crust.
Third process:
By cooking directly with butter, one obtains a hard and dry mass.

Another Fibrous Dirac
Ingredients
100 g cooked black rice
20 g raw leek white cut into julienne
20 g roasted squash seeds
300 g of dashi
100 g beef (a little thick / fat free)
100 g dirac roll cut into 32 slices
fresh butter
salt, pepper

Method

Season the beef, cook it with fresh butter and let it rest in the heat before cutting it into thin slices.

Heat the dashi to 70 °C.

Place the hot black rice in the center of six hot soup plates, place the minced beef, add the heated dirac rolls and the leek julienne.

Pour the dashi, add the squash seeds and cover to keep very hot until serving.

The “Chick Corea”

The first note by note dish ever served in a restaurant was prepared in 2008 and shown in Hong Kong, at my restaurant of the Mandarin Oriental, on 23 April 2008. It was called “Note by Note N°1”.

It was not so easy to produce, but it clearly opened new doors. Then, in 2010, it was decided to make another note by note dish, with more culinary interest and more flavour complexity, and it was this “Chick Corea” that was first shown at the Paris Book Fair. It was again difficult to imagine because of the entirely new possibilities that the note by note technique was offering: not only in terms of consistencies but also in terms of color, taste, odors, etc.

Here is the text by Hervé. Because the dish was the result of many working sessions together, it was produced afterwards, when the recipe was put online.

My dear Pierre,

I proposed note by note cooking in 1994, but I gave its name only later. I showed it in lecture before the year 2000, but I did not really start talking about it until after 2005, and I chose that metaphorical name in 2006, when the world was confusing molecular gastronomy and molecular cuisine.

Then, you have agreed to be the first to serve a note to note dish in a restaurant in Hong Kong in 2009, and this dish, named “Note to note No. 1”, became famous all over the world, because it had been presented to the press, after two dinners you had served at the Mandarin Oriental. The recipe is on this site: http://www.pierre-gagnaire.com/pierre_gagnaire/travaux_detail/44

Since note to note cooking has been explored by various cooks, in many countries, because I have been constantly promoting this new technique, which can be combined with a truly new art. And that’s why, with restraint, however, I have not stopped telling you the progress of note by note cooking, anxious that you remain the first, not only from the artistic point of view, as you are so almost unique, but also from a technical point of view. Because it was also necessary to learn the lessons of molecular cuisine: in French, the word “cuisine” refers to both the piece, the practice, technique, and style (we speak of “nouvelle cuisine”, for example); but, in English, one distinguishes molecular cooking, the technique, and molecular cuisine, this culinary style born with the new technique. For it is true that new tools can have new uses, so that new foods can result from a technical modernization, that a new art can be born of new techniques.

And so, one day, you wanted another note to note dish. This time, we have worked in a more “coordinated”, more rational way, in that we have “drawn” (in the sense of design) the dish, considering all its dimensions: consistencies, first, their organization in space, colors, tastes. Of course, I did not take part in the choice of the particularities of this dish, and I simply answered technical requests.

This work lasted several months, and the result was this dish which is today named “Chick Corea”, in honor of a jazzman that we both like. I pass on the current constitution of the dish, because you give it here, on the one hand, but, above all, because I trust you: it changes often because I know that your quest is tireless, and that you are never satisfied with a dish that you have made.

On the other hand, let’s insist on some peculiarities, and, especially, on the contrasts, very clear in this dish. Contrasts of consistencies, contrasts of colors, contrasts of taste … but it is not for me to speak about it, because I am not involved in their choice.

On the other hand, this Chick Corea dish gives me the opportunity to insist on the fact that after a few years of exploration of note by note cooking, I see various ways, between the realization of the dish entirely note to note, or simple seasoning, or, as you did recently when the New York Times came to discover cuisine note-to-note, building dishes “from” compounds. For the Chick Corea, it is entirely note to note. For convenience, Schweppes can be used instead of a solution of quinine, and oil can be used instead of pure triglycerides, vodka rather than pure ethanol … but this is only convenience. For example, the oil is a mixture of triglycerides that does not behave very differently from one of its fractions, and vodka is truly a mixture of 40 percent ethanol and 60 percent water, to the point even the odorous compounds which may be present after distillation are removed, by passing the vodka over active charcoal.

In short, the Chick Corea is perfectly a note to note dish … and an extraordinary achievement, with very strange flavour … as I love them: the maitre d’hôtel of your restaurant on rue Balzac can testify that when I have the immense pleasure of eating your food, I always ask for the most fun, the most free jazz.

Free jazz, is not that what Chick Corea was playing?
Here is now the recipe for a sweet version of the “Chick Corea”:

1. **For the base:**
   1.1 **The gel:**
   - 100 g of glucose
   - 100 g of water
   - 3 drops of limonene in solution in oil
   - 60 g of Schweppes
   - 5 g agar-agar
   1.2 **The fiber:**
   - 1 apple
   - 200 g water
   - 70 g isomalt
   - 8 g ascorbic acid
   - 6 g agar-agar
   - 3 drops of red dye

2. **For the center:**
   2.1 **Liquid lemon vodka:**
   - 250 g of water
   - 15 drops of limonene (which can be replaced by lemon peel)
   - 60 g of isomalt
   - 80 g of 40 percent ethanol solution in water (can be replaced with vodka)
   - 0.6 g xanthan gum
   - 2 g calcium lactate
   - a pinch of beta carotene
   2.2 **Alginate mixture:**
   - 1 liter of water
   - 5 g sodium alginate

3. **Green brittle opaline:**
   - 100 g water
   - green dye
   - ascorbic acid
   - menthol

**Method for the base:**

1.1. **The gel**
   - Cook the glucose to form a caramel (indeed, a “peligot”).
   - Add water to this product.
   - Thoroughly melt the whole to obtain an amber syrup.
   - Weigh 140 g of syrup, add the limonene and Schweppes, and stick together with the agar-agar.
   - Harden.
   - Mix to obtain a thick gel.

1.2. **The “fiber”**
   - Put the apple in a juice extractor, recover the pulp (cellulose), finish squeezing it to obtain a dry material.
   - Add water, ascorbic acid and isomalt to the agar and bring to a boil.
   - Add 50 g of apple cellulose to the hot liquid, followed by some red colorant, spread the preparation on a plate about 1 cm thick, harden in the cold before detailing.

**Method for the center:**

2.1. **Liquid lemon vodka**
   - Bring the water to a boil with the isomalt.
   - Add the limonene or lemon peel off the heat.
   - Infuse until completely cooled.
   - Pass.
   - Add the vodka, color with beta carotene.
   - Weigh 200 g of this infusion, add xanthan gum and calcium lactate.
   - Let the mixture stand for 3–4 hours in the cold to hydrate the xanthan.
   - Degas if necessary before making the beads.

2.2. **Alginate mixture**
   - Mix both, let stand overnight for optimal use.

2.3. **Liquid pearls**
   - Place some of the vodka/lemon liquid in the alginate bath, let a film form, which will trap the liquid, and immerse the pearl in clear water to stop the spherification.
   - Reserve the remaining pearls in the vodka/lemon liquid.

2.4. **Brittle green opaline**
   - Heat the isomalt with water at 200 °C.
   - Add the green dye and the menthol flavouring.
   - Pour on a silicone sheet, spread with a sugar roller, let it cool completely.
   - Break the green caramel using a grinder.
   - Lightly grease a silicone sheet, place on a sheet with a round imprint, sprinkle the pulverized sugar through a broth, remove the imprinted foil, bake at 160 °C in a dry oven to form very fine caramel discs.
   - Let cool completely and keep in a dry place.

**Dressage**

- Cut the apple fiber into small cubes.
- Mix 50 g of fiber cubes with 50 g of gel.
- Arrange it in the bottom of a bowl, put a vodka/lemon pearl in the center, cover with an opaline, and finish with a little bit of ascorbic acid.
- A soft sauce can be made by relaxing the gel with Schweppes until creamy.
- Serve this sauce either in the bowl or in a gravy boat.

**The Whole Work**

Enough with the presentation of a few. Let’s now just give the list of all of them. There are three categories: “culinary constructivism”, “culinary precisions, knowledge and gourmandise”, and “note by note cooking”. Here is the list, which changes every month.

**First for Culinary Constructivism**

2018
- Soft ticket: how to make an edible paper
Strawberry even more than strawberry!: a way to improve the flavour of food ingredients in general
Debyes: see earlier
Perfumed oil: using knowledge about hydrophobicity and chemical characteristics of odorant compounds
The cryptands: a generalization of chocolate sweets
2017
Firmed vegetables: how to get firmer vegetables using calcium ions
Ultimate sweets
Many other puff pastries: the gerhardts
2016
Flaky butter: like a puff pastry, but entirely with butter
2015
Diracs: a reproduction of some characteristics of meat
2011
The beauties of the hard egg!
The kessels, the cousins of the scalded …
2010
Fried egg yolk: the title says everything
Acidity games: different acids give different tastes
Make the powder explode!: making powders with flavours
2009
Shitao: how to use capillarity in order to put some flavour inside food ingredients
Leaves … spinach, parsley, mushrooms …: artificial leaves
The gold of the Great Kitchen!
2008
From a little evil, a great good … again
Ambroise Paré and emulsions
A glass of wine: the idea is to make a glassy material out of wine
Crispy fish and meat leaves: the title explains
Prierestleys: a generalisation of custard
Couched Games: the Couchs is a wine from the Bordeaux regions, and there are ideas for innovation out of wine in general, and of Couchs wine in particular
Vauquelins: some foamy preparations
Double cooking: 144 ways of cooking differently
2007
Taste in the leaves: the name says it all
Bake in sugar crust: idem
Liebiggs: there are physically gellified emulsions
Oil painting: painting with food
Geoffroy: an emulsion that you can generalize
The laquages: as in Chinese painting, but with dishes
Vauquelins in the oil: how to preserve the crackling sensation of some salt crystals
Floating cubes: playing with density
2006
Tribute to Braconnot: strange gelifications
Hard under it: playing with consistency
The built is “beautiful”: an assumption about what is “good”
Chaptals: new dishes
The perfect scrambled egg
The conglomerates
Interlaced layers: a generalisation of puff pastry
Sauce waters: how to produce clear pastrys
An abstract dish: like abstract painting
2005
Welcome coffee: cocktails with 10 layers
A foam that holds: the würtz
Irreplaceable gelatin: to make pearls with a liquid core
Varnish and glaze in the kitchen
Cheese enfleurage: how to give some flavour to cheese
The kientzheim sauce: like a mayonnaise, but from brown butter
2004
A clear tea jelly
Sweet salty
Two flavours from a single: using the fact that oil and water don’t dissolve the same kinds of compounds
Roasted flour: and making balls with a chocolate flavour
Beginning of texture, epic cooking: how to delay food consumption in order to make more beauty
Checkers with two and three dimensions: the Rubik cube out of food
Constructions of space: again playing with the building of food
Gradients and diffusion, controlled diffusion
Gay-Lussac sauce, a sauce that is not classic: tradition never produced foamy emulsions, but here is one
2003
The pastis effect: how to disperse oil in water
Pastel and contrasts: playing with art ideas, this was shown after the publication of our book Cooking, a quintessential art (The University Press of California)
The comfortable sauces: a base for making really “good” sauces
Wind crystals: when you can make liters and liters of whipped egg white from one egg white, you can make meringues with a very light consistency, and Hervé called them “wind crystals”
Taste in a gel
Maillard vegetables, half ice cream
Chantilly butter: like the famous “chocolate chantilly” invented by Hervé in 1995, but with butter
The innate and the physiological: constant motors
Playing with tastes
2002
Ice salt: the name gives the description
The egg at 65 ° C: an invention by Hervé more than 10 years ago, under the name “perfect egg”
Gradients in the kitchen: how to put some flavour into a dish
Juxtaposition: playing with contrast for improved pleasure
Inventing dishes by calculation: the example of Faraday
Culinary Precisions, Knowledge and Gourmandise
After 10 years of creative play that consisted of introducing each month an “invention” (Hervé) that was staged (Pierre), a new work (game?) was played, to better link knowledge and greed.
We start from the classical cultural background (culinary precisions, proverbs, sayings, maxims, recipes, handshakes …) that are the subject of Hervé’s daily analysis, and we go through the sieve of knowledge in order to arrive at the kitchen. Both gourmet and enlightened. Nothing beautiful is done without art (Pierre).

All in all, this was the invitation to a new dialogue of culinary art and scientific knowledge: long live enlightened gourmandise!

2017
The soufflés: the three rules for success

2012
Sayings, knowledge and greed: using cellulose in jams
Oh, roast chicken!: how to change its flavour

2010
The sole meunière is perfectible: improving a traditional dish
Kougelhopf and taste of yellow: how to increase the particular brioche flavour

2008
Streamlined use for cream: now to make the best use of this ingredient

2007
Salt and pepper in an omelette
Stories of hazelnut: innovations around brown butter

2005
Longer bouillons in the mouth

Note by Note Cooking
As we said before, the first note by note dish served in a restaurant was “Note to Note No. 1”, in Hong Kong, on 28 April 2006. Since then, there have been other note by note dishes.

One very important move took place when the New York Times came for a note by note lunch in 2010, but we did not wait for this to explore this new technique.

2015
Poiseuille: liquid channels into a gel
Chick corea: see earlier

2014
Berzelius: a note by note generalization of custard
Graham: a quintessence of creaminess

2013
Capsaicin: the main pungent compound of chili
Cis-3-hexenol, the bouquet of the greenest olive oils

2009
Note to note cooking: new tips

2008
Artificial oranges and orange blossoms: of course, one can easily make alginate pearls, which some would name spheres, but grouping them can make the equivalent of oranges.

2007
Nollet salad: an artificial salad, including the dressing of a “leaf”

2006
Note to note cooking: new hints

2005
Polyphenols and tannins: phenolics can be extracted from grapes, and used in order to make sauces, such as the “wöhler sauce”
Tartaric acid, elegant acidity, for “Pasteur”: using tartaric acid as one would do with salt and pepper

Conclusions and Perspectives
Very early on, I realized that I did not know the classical ingredients well. I observed them, I ate them, I touched them in order to build my sensory universe and to write my pantry. Slowly, the result became more harmonious. Slowly, I was drawing the flavour toward a new universe. I need to put feelings and intelligence in my dishes. Human beings need poetry, tenderness and well-made artifacts.

I am fascinated by paintings, and I love being captured by them. The painter expresses his or her own intimacy with objects that can be discussed. He or she offers to see, to share. And I like this sharing, I need to put poetry in the plates.

The dressage teaches me harmony and makes me find peace. I always need to organize space. My instinct is guiding me, but also I learn by trial and error, which sometimes creates new flavours. A dish should always be built, understandable, exceptional, and I need to find ways to give both emotion and pleasure. One should evaluate culinary art in terms of tradition or innovation; the key is the tenderness of the cook!