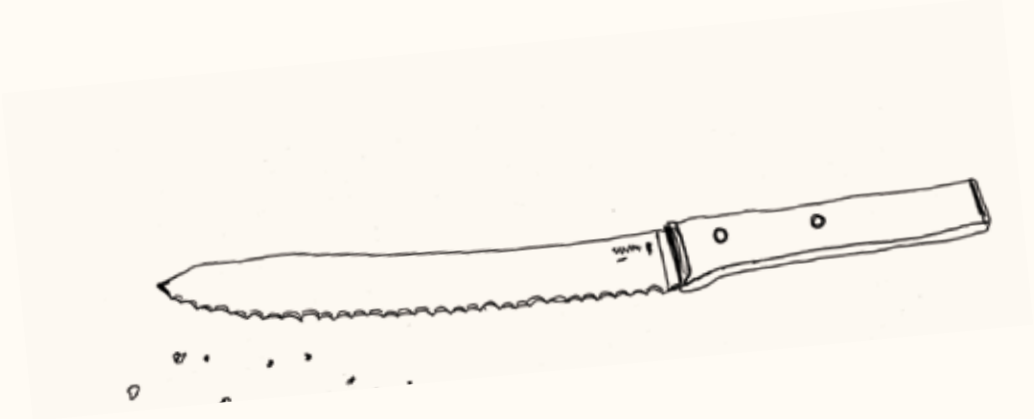
A Book About Bread



A Book About Bread

A Baker's Manual

Issa
Niemeijer-Brown

HL BOOKS

for Leidie, Rudo,
Alex and Ezra

About the author:
Coming from a family with French and Italian ties, Issa Niemeijer-Brown was raised in a tradition of home baking that appreciated quality and simplicity. After graduating cum laude in Sociology from the University of Amsterdam, he chose to become a baker. In 2008, following years acquiring experience at renowned bakeries in the Netherlands, France, and Italy, Issa and his brother founded Gebroeders Niemeijer (The Niemeijer Brothers). Located in the heart of Amsterdam, the artisanal French bakery quickly gained international standing and acclaim for its croissants, pastries, and bread.

At gebroedersniemeijer.nl/blog you will find instructional videos about turning, shaping, cutting, and scoring dough.

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Table of Contents

This book is different from other bread baking manuals. Rather than simply providing recipes and instructions, it teaches you the process of bread baking and enables you to create your own recipes.

The first sections of the book walk you step by step through the process of making your own bread. In these initial stages, you will familiarize yourself with the processes of making a dough. From there, you will start to practice making bread.

The second section of the book provides the real recipes as we use them in our bakery. These recipes are just starting points, allowing you to try out different techniques and taste how even small modifications in a recipe can produce dramatic differences in flavor.

After a bit of practice, you will find that you don't need the recipes as much anymore. You will be able to devise your own and adjust our recipes or those of others to suit your own tastes. The final chapter guides you through your first experiments in developing your own recipes, with a number of tips on how to get your bread just the way you would like it to be.

Recipes

Making your own choices

Appendix

Prologue

from baking

as a child,

to baking at home,

to baking in a

wood-fired stone oven,

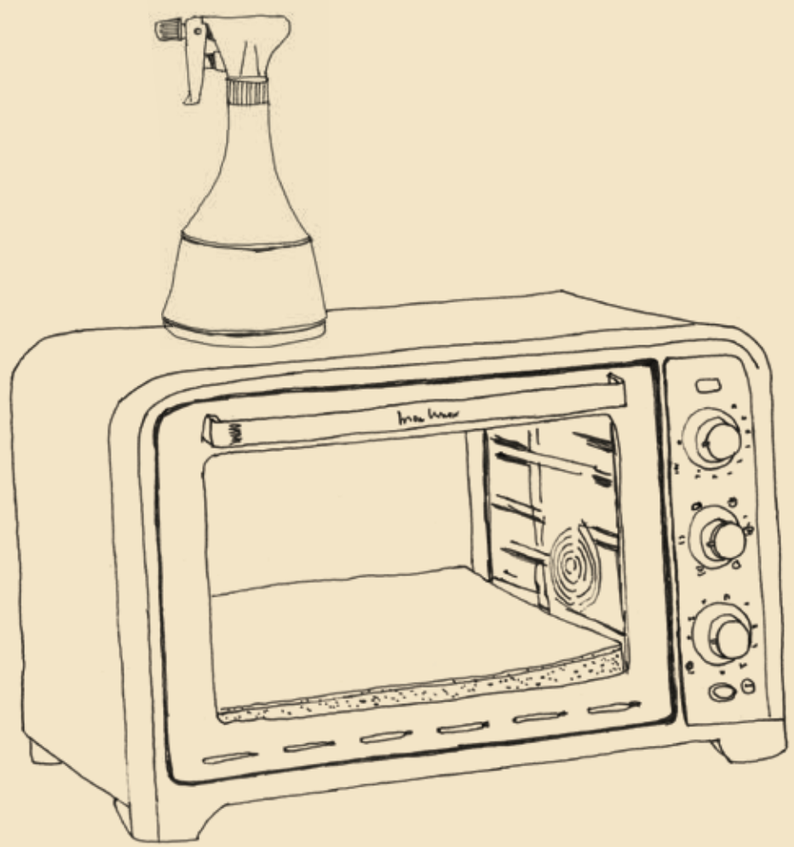
to starting a bakery

Childhood attempts

For me, becoming a baker means fulfilling a passion which originated from childhood attempts at making filled chocolates and all kinds of pastries. I grew up in a family with a very high standard of home cooking. My parents have close friends in Rome, we spent a lot of time in Italy, and we learned to appreciate the hours and hours spent in the kitchen and subsequently at the dinner table.

We also traveled a lot, and I was exposed to breads and pastries all over Europe. We frequently visited my uncle in France, traveling throughout the country and taking long hikes in the mountains. Part of the treat for me was always going to the local bakeries in the mornings, trying out pastries and croissants for breakfast and taking a baguette back home for a picnic in the fields.

At home in the Netherlands, my parents encouraged my culinary interests, and gave me the freedom to use the kitchen anytime I asked for it, though I am sure they had their



reservations. I loved reading, leafing through my parents' collections of books, which were extensive given their respective careers as a psychologist and an anthropologist. But when baking, I preferred to just look at the pictures in cookbooks. I didn't have the patience to follow actual recipes, I resisted my mother's pressure to think more carefully and plan in advance what I wanted to bake, dismissing her fears of my wasting yet another dough simply because I refused to look up ingredient quantities. But for me this was part of the joy of baking, and anyway I preferred to try to eat half of the cookie and cake batters before they ever made it to the oven.

Becoming a baker was also a matter of coincidence and experimentation. As I grew up, I studied sociology and philosophy, worked in development cooperation, and was involved in reconstruction during and after the war in Bosnia. Over time, I started baking more and more at home, just for fun. I started out with just a Moulinex oven, about the size of a small microwave and with a maximum temperature of 430°F (220°C). As I was advised to do by other home bakers, I put in a baking stone, sprayed the oven interior amply with the plant mister and actually, to my surprise, was able to make really nice baguettes.

Eventually I took it one step further and set out to recreate flavors I remembered from my childhood: the Rosette we had in Rome, French countryside baguettes, sourdough from the Belgian Ardennes.

Though I started reading the recipes as well as looking at the photos, I was not having much success with any of the recipes I found. So, I took a different approach. I tried to understand the precise process of how doughs work, going as far as reading French, American, Swiss, and Italian professional and technical literature on the baking of bread – again, just for the fun of it.

Part-time jobs

As soon as my bread started to become a bit better than average, I was asked to bake for a small deli. I upgraded my oven to a second-hand normal-sized home oven, but one of good quality. Its temperature could reach 570°F (300°C). More

and nutritional value. The grain kernel is split into different parts and the germ – which contains a lot of oil but also many nutrients – is separated and left out to extend its shelf life. Wholegrain flour is then produced by re-adding fibers at the end of the process. When flour is stoneground, the whole grain kernel is ground, and no parts are taken out.

There's also the well-known difference between wholegrain and white flours, discussed before. Wholemeal flour is flour which hasn't been passed through a sieve after being ground, and thus contains not only the kernel but also all the fiber in the grain. White flour has been passed through a series of consecutive sieves, until all the fiber has been removed. However, in France and in some other countries, it's possible to get a far more precise choice. In France, wholemeal flour is known as T150 (type 150), while white flour is known as T55. The number refers to the quantity of ash that would remain after burning the flour completely: the more fiber, the more ash. Then there is also a T80 (a slightly grayish flour, popularly known as *bise*), T65 (a white flour still containing a bit of fiber, and the entire kernel with all its vitamins and minerals) often used for more traditional baguettes and breads, T45 (a very fine flour, suitable for pastries, *viennoiserie*, or bread depending on the quality of its proteins). In principle, it is possible to acquire any kind of flour in between, simply by sieving it a bit more or less. If not available commercially, it is also possible to sieve wholemeal flour at home to reach the required level of fineness. It is also possible to mix wholemeal flour with white flour, although the effect is not the same, as the amount of fiber will be reduced but the size of the fiber will be that of the original wholemeal flour.

In the appendix (p. 222) you can read more about the technical qualities of flour

Finally, even white flour is not literally white. It has a slightly beige, yellowish color deriving from beta carotene, the intensity of which also depends on the original species of grains used – it only becomes white for two reasons: chemical bleaching of the flour before it is sold to you, or your bleaching the flour during the process of bread making by choosing procedures I would not recommend.

White, grey, and wholemeal flour

Water

Water is one of the most readily available ingredients, yet easy to forget in a book about baking breads. It's nevertheless of crucial importance and deserves a special mention. The type or the quality of water is unimportant, as long as it has no strong flavors, and is pure from a nutritive viewpoint. Plain tap water will usually do.

The *amount* of water used, however, is crucial. It is not just that water makes dough drier or wetter, stronger or softer. Water also affects the speed at which chemical processes take place inside the dough. The availability of water increases the speed at which yeast operates, causing the dough to develop faster. It also speeds up the enzymatic activity in dough, thus contributing to its rich flavor. Water also slows down mixing processes, as it becomes harder for the proteins in the flour to encounter each other and form networks of gluten. It greatly affects the extensibility and elasticity of doughs. Doughs with more water are more easily extensible; however, they lose their shape more easily and tend to flatten.

At this point it should be mentioned that the ideal water quantity is closely linked to the characteristics of the flour with which it is combined. Some flours can absorb much more water than others. Some flours have such high enzymatic activity that using too much water causes the dough to develop too quickly or lose its strength and flatten. Yet at the same time, increasing the amount of water in a recipe even slightly can improve a flour which seems to lack "life" or "activity".

Salt

Basically, any ordinary type of salt will do, as long as the grains are not too big. They should easily dissolve into the dough. In our bakery, we prefer to use unrefined sea salt – a French salt from Guerande which dissolves easily and has a full balanced flavor. Refined salt works perfectly well but often has a sharper flavor and just doesn't contribute much to the bread except its saltiness.

Yeast

This leaves us with yeast. There are three types available: fresh yeast, dried yeast, and instant yeast.

Fresh yeast

has byproducts added to it in order to keep the yeast fresh; its flavor is thus less pure, and you also need more of it. There's nothing wrong in using it, but also no reason to do so.

Dried yeast

is the type which first needs to be dissolved in water. This is the least desirable option. Having to first dissolve the yeast, however simple this sounds, complicates the process. But more importantly, it usually has an unpleasant taste and in my experience is the least reliable. It is just not the right way of treating and keeping yeast.

Instant yeast,

whatever associations the name might conjure up, is actually the purest product. You need the least of it (one third the quantity of fresh yeast), it is both easy to keep and easy to use, and it doesn't bring with it any unwanted flavors. In all of the recipes in this book, it's assumed that you are using this type of yeast. If you are using fresh yeast, simply triple the quantity, and if for any reason you are using dried yeast, double it (and first dissolve the yeast).

Letting the dough rest and folding the dough

While the dough is resting

After mixing the ingredients and a period of autolyse the gluten network in the dough will already have started to develop. Still, it is not at its full, optimal strength. This process continues by simply letting the dough rest.

To be precise, the dough itself is not resting at all; several processes continue:

- The yeast, having been hydrated, has become active and starts to turn sugars into alcohol and carbon dioxide, the latter causing the dough to inflate.
- This inflation serves to stretch the gluten strands, and they in turn strengthen, just as if you were kneading the dough.
- The yeast's metabolism also causes the acidity in the dough to increase.
- Enzymes in the flour, most notably amylase, also become active the moment water and flour are mixed. Amylase breaks down the starch and turns it into various kinds of sugar.
- The sugar thus developed will in part be consumed again by the yeast, and in part stay in the dough contributing to its flavor and, while baking, to the development of the crust.
- In the case of a sourdough, bacteria start to produce all kinds of volatile organic acids, impacting both the flavor of the dough and its acidity. Even when not using sourdough, these processes start to take place, though at a much lower speed. Given enough time, a dough made with yeast will also become more acidic and develop more flavor.
- The increasing acidity of the dough serves both to strengthen the gluten strands and to break down the starch. The resulting bread will be more easily digestible and will keep fresh longer. However, this effect has its limits, and if the dough contains too much acidity the gluten network will start to break down.

Photo: The pizza bianca dough only starts to hold its shape after folding

Gluten network before folding the dough, the gluten strands are shorter and randomly dispersed in all directions

Gluten network after folding the dough, the gluten is lengthened and aligned

Folding the dough

While the dough rests, the gluten network continues to develop. However, the protein strings are dispersed in all directions. One simple act performed at the halfway point of the resting time can align the strands. This is the act of folding the dough. It's one of the most effective ways of kneading, in fact. With a few simple movements, gluten will be reinforced, aligned, and stretched, and you will instantly discover that even the loosest or stickiest of doughs turns into something smooth and strong. The inner and the outer parts of the dough are flipped or turned inside out; the temperature of the dough equalizes throughout. It also repositions the yeast and gives it access to a fresh supply of "food". The yeast's activity can then increase again, and it will no longer need to consume itself (it is this cannibalization which causes the typical flavor associated with too much yeast). Folding, moreover, is a very gentle act – there's hardly any oxidation or risk of overworking the dough.

Baguette tradition

The first, most basic, recipe to try is also one of the finest and purest recipes. The baguette, and specifically the "*baguette tradition*". Tradition in this case stands for quite a small baguette, made with a relatively soft (moist) dough given plenty of time for development, kneaded very little, weighed by hand, and shaped rather loosely. The result is an open structured loaf with large alveoli, a slightly beige crumb with a very full, delicate, and pure flavor with hints of roasted nuts, alongside some sweetness and a nice crunchy crust. Making a *baguette tradition* is very much like developing the taste of the flour to its maximum, without adding sourdough. This type of baguette has become very popular recently in France, a sort of reinvention of tradition, and in its pure form it is probably the best baguette to be had. It's not exactly a protected label however, and it's rare to find it in its pure and artisanal form – in particular, "weighed and shaped by hand" and the extended development are not often taken literally in professional bakeries.

Two methods of making the dough are provided below. While both lead more or less to the same result, they give you the opportunity to work with two very different schedules. The first method involves a short primary fermentation, after which the dough undergoes a long proofing in the fridge. The second method is based on a long, extended primary fermentation at a low temperature, and a short proofing. If you prefer and have the time, long proofing in the fridge is also possible for the second method. There are some differences in results between the two methods: prolonged proofing slightly intensifies the flavor, regardless of the length of time of the primary fermentation. And shorter proofing makes it possible for the dough to hold its shape a bit better, resulting in a larger volume and a more pronounced *grigne*. But these differences are minor – it is also just a matter of your preferred schedule, when it suits you best to shape the loaves.

These quantities are
for four to six baguettes

Ingredients

bread flour 1000 grams
type T55 or T65, medium strength, extensible
water 630-680 grams (63-68%)
salt 20 grams (2%)
yeast 2 grams (0.2%)

autolyse 45 minutes
kneading no kneading, except for the mixing of ingredients
weight of a dough piece: about 250-400 grams, depending on the size of your oven

Method 1: short primary fermentation, prolonged proofing

Dough temperature after mixing and autolyse: 75°F (24°C).

Resting time (primary fermentation): about three hours partly at room temperature, partly in the fridge, with one fold half way; at the end the dough should feel airy.

Pré-façonnage: rolls, followed by about 5 to 15 minutes resting.

Façonnage: shape into a baguette, taking special attention not to push out any of the gases.

Resting time (proofing): overnight in the fridge (12 to 30 hours); the baguettes should be airy, but still have some strength when touched. Pay attention: As the dough is cold it will feel relatively firm.

Method 2: prolonged primary fermentation, short proofing

Dough temperature after mixing and autolyse: 54°F (12°C).

Resting time (primary fermentation): about 12-24 hours partly at room temperature or directly in the fridge, with folding once halfway, but at least three hours before shaping; at the end the dough should feel airy (but also relatively strong because of its low temperature).

Pré-façonnage: rolls, followed by about 15 minutes resting.

Façonnage: shape into a baguette, taking particular care not to push out any of the gases, but closing the seam well, especially if the proofing will be relatively short and at room temperature.

Resting time (proofing): about two to three hours at room temperature or again in the fridge (12 to 20 hours); the baguettes should be airy, but still have some strength when touched.

Baking

Baking in a professional stone oven: 480°F (250°C), with only moderate steam; open the valves after about 10 minutes, to ensure a dry environment for the second part of the baking.

Baking at home with a baking stone: preheat the oven and stone to the highest temperature possible; try to create ample steam. Bake at 440°F (230°C). Pay attention while baking and if necessary, adjust the temperature.

Scoring: score three incisions on the top of the bread just before baking.

Baking time: about 20-25 minutes or until the crust is well developed and nicely browned.

Baguette blanche

The *baguette blanche* is the classic French baguette, which can be bought in any supermarket. It has a very thin dry crust, and a very light, airy, consistent, white crumb. The flavor is not particularly pronounced and rather bland. It will be fresh for a maximum of four hours and is best eaten immediately after it has cooled down. Its main quality is its lightness. It is made with the same ingredients as the *baguette tradition* but is handled more roughly (whether made by hand or with a machine – in both cases the dough is thoroughly degassed during weighing and shaping) and undergoes an intensive kneading process and a much shorter development.

Generally, this bread requires about 0.67% instant yeast (or about 2% fresh yeast), autolyse is skipped and it is kneaded intensively using a professional dough machine until the flour loses color and reaches a temperature of about 82°F (28°C). The development time (especially the primary fermentation, i.e. before shaping) is shortened as much as possible. Following this process, you will be rewarded with very light and airy baguettes in no time.

Working at home, it is actually probably easier to end up with a slightly improved version of this standard baguette. Your kneading will not be as intensive and you could make use of the autolyse period. You could easily use a bit less yeast and extend the primary fermentation to two or three hours before shaping, and the proofing to half an hour. These improvements will mean you retain more flavor, though possibly compromising somewhat in whiteness and volume. The bread will also stay fresh a bit longer.

It is also possible to make *baguette blanche* with a starter dough. This classic variation is also included below.

Photo: baguette tradition on the left, baguette blanche on the right

Walnut / Walnut and fig

To make walnut bread, all that is needed is to leave out the figs in this recipe; everything else stays the same

These quantities are for two walnut / walnut and fig loaves

Ingredients

bread flour 480 grams
type T80, medium strength
sourdough 240 grams (proportion flour to water: 1:1)
water 275-290 grams (65-68%)
salt 12 grams (2%)
dried figs 190 grams, cut into quarters (32%)
walnuts 125 grams, lightly roasted and then cooled down (21%)

autolyse 45 minutes (flour, water, and sourdough)
kneading no kneading, except for the mixing of ingredients
weight of a dough piece about 650 grams

Method

Dough temperature after mixing and autolyse: 79°F (26°C); add the walnuts and figs after autolyse, towards the end of mixing, so that they don't break the internal structure of the dough too much; break a few of the walnuts just before adding them, so that some of the oil from the walnuts mixes into the dough.

Resting time (primary fermentation): about 2-3 hours at room temperature with one fold halfway; at the end the dough should feel airy.

Pré-façonnage: balls, followed by about 15 minutes resting.

Façonnage: shape into a *batard*, taking special care to maintain adequate tension and to close the seam tightly.

Resting time (proofing): overnight in the fridge (12 to 18 hours); the bread should be airy, but still have some strength when touched. Please note: As the dough is cold it will feel relatively firm. Moreover, if you touch the dough at a spot where there is a walnut or a piece of fig directly underneath the surface, it will feel a bit stronger; judge how the dough feels where there are no nuts or figs.

Baking

Baking in a professional stone oven: 480°F (250°C), with moderate steam; open the valves after about 30 minutes, to ensure a dry environment for the last part of the baking. After the first 15 minutes, slowly let the temperature fall to 435°F (225°C).

Baking at home with a baking stone: preheat the oven and stone to the highest temperature possible, try to create ample steam; slowly let the temperature fall after the bread has opened up and started to develop its first, light coloring. Don't let the breads color too quickly; ensure you can give them the full baking time.

Scoring: cut a *coupe polka* using a sharp knife just before baking.

Baking time: bake about 35-40 minutes or until the crust is well developed and has a good color, dark, because of the sugar from the figs, but not burned, and the bread is baked through.

Scoring coupe polka

Walnut and fig and walnut

Walnut and blue cheese