

Introduction

My maternal grandmother was born in Poland in 1918, and reached womanhood just as Europe was sliding towards war. She lived in a village in the far northeast of the country and when the Nazis invaded in 1939 she was safe from the initial onslaught. Just a few weeks later, however, Russia mounted its own invasion across Poland's eastern borders, and my grandmother was eventually arrested by the Soviet authorities. She was transported, with many of her fellow Poles, to a labour camp deep in the Russian interior, where she and her companions suffered great privation during several years of internment. In 1942, released by an amnesty arranged between the USSR and the British government, she made an epic journey through Central Asia to Palestine, where the British were assembling the Polish Free Army. Throughout her internment and her subsequent journey of liberation, she and her companions received very little food, and what they did have was pretty meagre fare. Many years later, when she told me the story of the time she spent in Russia, she remembered how her thoughts had never been far from the cravings of her stomach. Indeed, her whole existence came to revolve around hunger and the quest to assuage it. The harshness of the labour camps tested the endurance of the strongest; though young and in good health, survival was not something she could take for granted. Every opportunity to procure food was taken, and its consumption became a ritual in which the smallest morsel assumed the dimensions of a banquet. And while her stomach, and the stomachs of her compatriots, ached for lack of sustenance, the image that obsessively haunted their dreams and waking thoughts was that of bread. Almost every memory of the family meals of peacetime faded away as the new reality imposed itself. For those who, like myself, have never experienced real hunger, it is hard to imagine how extreme scarcity makes not only food itself but also the mental image of food a luxury. In the minds of those who are starving, possibilities and options are reduced until only the simplest things remain. And, for Europeans at least, bread represents the foundation upon which national cuisines are built. For my grandmother and her companions, the image of bread was about more than physical nourishment. It was symbolic of the comfort and security of home and, against the backdrop of a devastating conflict, of peace. In fact, if we try to imagine the circumstances, it is possible to understand the strength of feeling that lies behind symbols of all kinds. In many cultures, bread has long been a metaphor for plenty, and

its lack a mark of scarcity. To 'break bread' with another is symbolic of friendship and goodwill. In the Christian tradition, bread is metaphor for Christ himself, as well as being the object of one of his best known miracles. If its significance isn't universal, it is certainly very widespread, and very deeply felt.

What is surprising, then, is that bread is very far from being a simple foodstuff. On the contrary, it is one of the most complex and unpredictable foods known to man. Other staples, such as rice or potatoes, certainly need to be carefully cultivated, but they require little further processing to make them edible. Bread, on the other hand, is a prepared food, made from a number of ingredients that have complex stories of their own. Above all, bread as we know it is unusual in being one of a handful of foods whose manufacture may involve living organisms. Despite its undoubted importance as a symbol of uncomplicated nourishment, bread is a scientific marvel.

There are many books on the subject of making bread, and no shortage of people who aspire to make it. There are many fewer people who are actually competent at it. Baking is a craft that requires, at the very least, some commitment. There are no shortcuts, but with a proper understanding of what we might call the mechanics of bread – an understanding of what actually takes place during each stage in the process of its making – there is no reason why anybody should not be able to make a good start. Despite the wealth of information available, however, the fundamentals of baking bread remain obscure. Not only that, but it is not uncommon to encounter information and advice that is inaccurate, misleading and sometimes just plain wrong. Quite why this should be is a matter of conjecture. Modern science understands pretty well the chemistry and the physics of bread-making. Bread has been baked for thousands of years by many and diverse cultures that span the globe, with relatively few major differences or changes in technique or ingredients. And since the internet became accessible to millions of ordinary people the resources available to would-be bakers have multiplied year on year. Despite all this, reliable answers to apparently simple questions are sometimes hard to come by.

The intention of this book is primarily to explain the essential science that underlies the series of interactions and changes that take place during each stage in the process of making a loaf of bread, and also to dispel some of the confusion that

surrounds the different techniques that might be used. It is not a recipe book. To make a simple loaf of bread hardly calls for a recipe as such, and the ability to make a simple loaf of bread *well* is, I believe, a prerequisite for tackling more complex recipes, as well as a hard-won skill in its own right.

I may discuss the making of bread in terms of biology, chemistry and physics, but it would be a mistake to think that the science of bread makes a science out of actually making bread. That is how the industrial bakers treat it, for sound commercial reasons, but doing so produces reliability and consistency rather than the best bread that can be baked. It is difficult, if not impossible, to reproduce scientific conditions in a domestic kitchen, and we shouldn't want to. Nonetheless, understanding why we do certain things, and why they have certain effects, is enormously important. This kind of understanding gives us a powerful set of tools with which to solve our own problems and advance our own learning, and it is this kind of understanding that this book is all about.

Even a cursory glance at some online forums and discussion groups will reveal the level of obsession with technical details that some bakers develop in pursuit of the perfect loaf. I don't believe it would be fair for me to criticise this approach to breadmaking, but I will say that I find it hard to understand. It is perfectly possible to bake wonderful bread without obsessing over microscopic detail or employing elaborate formulae; moreover, I believe there is a limit to how remarkable a loaf of bread can be. It can be off-putting for a beginner, or even a fairly experienced breadmaker, to see others engaged in discussions of baking that would give experienced scientists pause for thought, but I don't believe there is really much to be gained from complicating the process of breadmaking to this degree. Having said this, I do believe that making bread that is worth the effort is neither easy nor straightforward. There is no substitute in baking for experiment and, inevitably, failure. Only the very lucky can hope to produce successful loaves time and time again, regardless of ingredients and technique. Even professional bakers will admit that they have experienced failure, and still do, from time to time. You may have encountered failings even in mass produced bread, despite the enormous resources that have gone into making it a perfectly uniform and predictable product. Hidden until unwrapped, you may have discovered loaf-tops detached from the crumb, or

giant holes penetrating the length of the loaf. There is no such thing as certainty in baking. Accepting this fact, and treating failure as a necessary – and often valuable – part of the learning process is a significant step towards understanding and mastering the craft.

I should make it clear before I go on that I am neither an expert, nor a professional. I was, and I remain, a committed amateur. Although it has been subjected to a great deal of tidying up and additional research, this book was written as I learned. Most of the books about baking that I have consulted, like books about other practical subjects, have been written by people who have already acquired great expertise. This has its disadvantages: it is all too easy, in any field, for the expert to take for granted information and knowledge that, for the beginner, may be very important. Not only that, but many experts have acquired their knowledge through experience in the catering trade. The difference between baking bread in the home and baking on a commercial scale, whether in a restaurant or bakery, is enormous, and knowledge gained in the workplace is often not applicable to the domestic kitchen. I hope that this book reflects my own learning experience, and that my curiosity has been enough to uncover all the information that the reader might need or want.

This is intended above all to be a practical work, one which will, I hope, be of immediate assistance to the domestic baker. This book is not intended to be kept on a shelf, but to be kept on standby, used, dirtied, dog-eared and, if it will stand it, to be passed on to a new owner once it has served its purpose.