

# Lessons from the Chilli in China

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ABSTRACT: A close look at the spicy cuisines of China, dominated by the chilli, holds lessons for the understanding of this spice and the cuisines shaped by it. First of all, that there are cuisines distinguished by chilli-based pungency as their flavour principle, then: 2) differences in pungency, deriving from 3) different uses and preparations of chilli and 4) different types of chilli with different characteristics. Lesson 5 is that there are limits and leeways to the other aspects. Finally, new developments seeking to modernize pungent products and thereby modernize the market are in progress.

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From their journeys through the Pacific around 1905, Austrian scientist-explorers Dr K. & L. Rechinger brought back an herbarium specimen of a *Capsicum frutescens* they had found on Upolu, Samoa. They annotated how it ‘grows as a weed in the coconut palm plantations’ and ‘when ripe, the Chinese coolies eat it. Very hot’.

430 That the Rechingers even found a chilli worth botanizing, and added a cultural-culinary note, is surprising. It’s a special bonus that there was a China connection. China is not often recognized as a place of particularly spicy food, but the country is one of the biggest growers and consumers of the chilli. The chilli may have been discovered by Europeans because Christopher Columbus wanted to find black pepper, but its spread went very differently (cf. Halikowski Smith 2015). Black pepper, although declining in popularity, continued to be a trade good; one can find it in cargo manifests. The chilli must have travelled with the European ‘explorers’. Sometimes, it may even have rushed ahead of them. It quickly superseded black pepper in everyday culinary importance around the world – but it did so as the spice of the poor, and especially of the non-European ethnic other. It grows easily almost everywhere, and people around the world seemed to have just been waiting for its pungency. Thus, most of the time, it was and is overlooked in its special cultural-culinary connections – even (or perhaps, especially) as it is such a screaming-hot spice to the uninitiated.

Now, various world cuisines are recognized for their spiciness, e.g. Mexican and Thai; there are also hints of the recognition that certain kinds of chilli peppers are necessary to give such ‘ethnic’ cuisines their authentic flavour (cf. Zewdie & Bosland 2001). Chinese cuisine is not well recognized as spicy – but some of its regional cuisines are. With this observation alone, one enters the realm of lessons that can be learned from a deeper engagement with the chilli peppers in China: the pungent character of certain cuisines, the

role that different chilli peppers (and approaches to them) play in such spicy cuisines, and the relationship between spiciness, tastes, and diners that hint at a modernization amidst the popularization of spicy eating.

### Lesson 1: Cuisines of the Chilli

The authenticity of a cuisine is a difficult topic. What makes it special and different from others, recognizable as itself, has been considered an element of cooking styles, preparations, ingredients, but especially aromatics, making them ‘flavour principles’ of the respective cuisines (as per Rozin 1983). Elisabeth Rozin only considered chilli peppers as one among many defining aromatics, but their role appears rather stronger – and more peculiar.

In China, as in so much of the world, the chilli arrived sometime between 1500 and 1700. Culinary mentions of it become common only in the nineteenth century (cf. Dott 2020), leading to claims that it is hardly traditional, although, as Dott (2020: 51) argues, ‘constructed authenticity does not require indigeneity’ of a food. Whether the chilli is older or newer a (major) ingredient, spiciness has been considered the defining characteristic of the Chinese cuisine(s) of the country’s west, meaning the provinces up the Changjiang (Yangtze river) towards the Himalayas: Sichuan, Guizhou, and Hunan. Ancient texts from times long before the chilli’s introduction already spoke of these areas’ people as liking strong flavors. The cooking ingredients that were found in Hunan’s Mawangdui tombs lend credence, at least, to the use of various stronger flavourings; they included ginger, scallions, and Sichuan peppers. Mujiangzi (aka. shanhujiào, aka maqaw, unripe fruits of *Lindera glauca* (Sieb. et Zucc.) Bl. or *Litsea cubeba* (Lour.) Pers.) also have traditionally been in culinary use in these areas and lend a certain pungency; Japanese cornelian berry (shanzhuyu, *Cornus officinalis* Torr. ex. Dur.) is also mentioned as an aromatic used before the chilli, but its taste is sour rather than pungent.

431

Since the chilli arrived, it established itself as such a determining flavour, it is seen as representative and necessary for the cooking styles of these provinces. The only question in most people’s minds is how exactly the saying that ‘Sichuan people aren’t afraid of spiciness, Hunan people don’t fear spiciness, Guizhou people are afraid of not having spiciness’ is supposed to go (as there are different versions putting the people from those provinces into different hierarchies), similar to how it’s either Sichuan or Hunan women who are the *lameizi*, the ‘spicy girls’ of China.

### Lesson 2: Spicy Cuisines, but Spicy in What Way?

Attractive and easy as it may be to classify certain cuisines as spicy, this is too superficial by far. Even as cuisines rich in chilli tend to be described as nothing but spicy, there are differences not only in how spicy they are, but also in how they are spicy.

Sichuan with its mala flavour combining Sichuan peppercorn’s numbingness and chilli’s pungency is perhaps the best-known case of a cuisine being represented by a (distinct)

spicy flavour. There are many more flavours and techniques employed by Sichuan cooking (Chuan cai). While this makes it a typical oversimplification to equate mala flavours with Sichuan cuisine (or Sichuan cuisine with nothing but mala flavour), this link is strong and well-recognized.

Hunan cuisine (Xiang cai) is similarly associated with the spiciness of chilli. Here, however, it is not – in fact, never (in the argument, not in reality) – a mala flavour one finds, but a xin-la or xiang-la ‘fresh/pure’ or ‘aromatic’ pungency.

Guizhou cooking is considered a part of the spicy ‘West’ of culinary China. Unlike the above two styles of cooking, however, it is not counted among the (eight) great cuisines. Quite possibly, the reason is the even greater influence of ethnic minorities in this province; Sichuan has a greater acclaim as a more civilized province of high culture, Hunan a complicated but highly regarded status as home of ‘provincial patriots’ (as per Platt 2007). The cooking, similarly, is considered more refined in Sichuan, more rustically Chinese in Hunan, and wilder, with more than 50% of all recipes including chilli peppers (cf. Wang et al. 2019) and a typical – and to many authors, confusing – sour-spicy flavour in Guizhou.

### Lesson 3: Cuisines of the Chilli, Used in Certain Ways

Different kinds of pungency come from different ways of using chilli, so that the mere description does not suffice. We also need to ask how the chilli is used and prepared.

432 In talking about Hunan’s xin-la (‘pure’ spicy), gained through the use of fresh chilli, this was hinted at. Hunan cooking predominantly uses fresh chilli, green or red depending on the recipes in question. The importance of such chilli, freshly stir-fried, is perhaps best (or at least, most amusingly) illustrated by the joke about the two typical dishes of Hunan: red peppers fried with green chilli and green peppers fried with red chilli. When it comes to preserved chilli, the same flavour (principle?) comes to the fore in Hunan’s duo lajiao ‘chopped chilli’, which is fresh chilli preserved in salt brine. Treated this way, it retains the fresh flavour sought after.

Sichuan cuisines’ flavours are not only mala; and mala dishes themselves already differ from the spiciness of Hunan dishes in their use of dried chilli. Furthermore, the ‘soul of Sichuan cuisine’ is Pixian doubanjiang, the famous fermented paste of red chilli and broad beans (with salt and wheat). It gives a certain funk and an umami quality to dishes made with it; its spiciness is dialled down; the salt content is a challenge to cooks new to doubanjiang. Other flavour combinations are manifold, making it much more difficult to pin down a typical flavour of Sichuan cooking. (But then, perhaps the combination of the mala flavour being very special and easy to remember is the very reason why it would be emphasized out of a plethora of different flavours!)

Guizhou cooking’s typical sour-spicy aroma is intimately related to the preservation of chilli. The taste is often attributed to a use of vinegar, but it actually derives from the chilli

that is chopped and salted similarly to Hunan's duo lajiao, but then sour-fermented into zao lajiao. Guizhou cooking is also characterized by the use of ciba lajiao, a chilli paste made from rehydrated dried chilli that is pounded (or ground) and fried, giving it a somewhat sour-fishy flavour. (Guizhou cooking also uses zhe'er gen, the root of *Houttuynia cordata* Thunb., which is also fishy in aroma.)

This predilection for sour (fermented) aromas is often seen as influence of the Miao ethnic minority's traditions and tastes. Their best-known traditional dish is the 'sour soup' fish (suantangyu). Originally, it was made from a pure rice ferment; nowadays the more popular version is the red sour soup (hong suantang) which is fermented with tart tomatoes and chilli. Either way, this sour ferment is also flavoured with the mujiangzi mentioned above and with Sichuan pepper, continuing this old tradition.

Thus, we see that certain (Chinese) cuisines are not only characterized by spiciness, they have characteristic kinds of spiciness, and those in turn derive from different uses or preparations of chilli, the main component giving them their pungency.

In rather typical fashion for discussions of spicy cooking, the descriptions so far only spoke of chilli – but is that all there is to it?

### Lesson 4: The Right Chilli(es) for the Cuisine

The chilli is not just a peculiar spice as a flavour principle of certain cuisines, where it is not the easiest to decide which cuisines are truly spicy ones, and where it needs further consideration what sorts of spiciness, achieved through which preparations, are meant. It is also peculiar when it comes to the spiciness and the different kinds of chilli that give that spiciness.

433

Many recipes and discussions of chilli without any further distinction make it seem as if chilli were just a pungent spice without any other distinguishing characteristics. It often sounds as if one could use whichever chilli one wants to use. At best, there tend to be mentions of getting a type of chilli that is not too pungent, for example.

In reality, one cannot only differentiate the levels of pungency, i.e., how hot a chilli is. The sensory characteristics of chilli, as described by Guzmán and Bosland (2017), encompass '1) Development, 2) Duration, 3) Location, 4) Feeling, and 5) Intensity' of chilli peppers' heat. Guzmán and Bosland also point out that 'it is critical to use the correct chile pepper when formulating a spicy Asian soba noodle dish or a Hungarian goulash product' as different characteristics are considered right for these respective culinary contexts, deriving from the chilli used in them. They do not mention the aromas aside from the pungency which can also be found in different kinds of chilli, and which (can) play a role in cooking.

The relationship between different types of chilli and different dishes and cuisines is not an easy 1:1. In fact, it has proven a topic in which little clarity exists, few relationships have ever been considered – but local cooks and eaters will quickly realize and point out when something is not right, so that one cannot deny the existence of any relationship.

There is at least one case where the relationship appears to be straightforward: Sichuan cuisine, especially its Pixian doubanjiang, and the erjingtiao chilli. This particular type of chilli is the best-known in Sichuan and very popular in Sichuan cooking, thus held in high esteem. Producers of Pixian doubanjiang, especially, declare this chilli to be the one they use. It appears to be more of a type of chilli than a variety, however; there are different kinds of erjingtiao that differ in some characteristics (such as the size and thickness of the fruits).

Sichuan also uses other kinds of chilli such as the low-pungency denglongjiao ‘lantern chilli’, which is nearly as broad as it is long (both just about an inch, 2.5 cm maximum), the smaller and spicier zidantou ‘bullet chilli’ (with the name again describing the basic shape), or the small, mid-length, very spicy mantianxing and qixingjiao (the former’s name does not have a usual or easy translation; qixingjiao is ‘seven-star chilli’).

The majority of these kinds of chilli, at least as they enter the chilli trade, are not actually grown in Sichuan (anymore), but in Guizhou (where they are also used). Other kinds of the upright-growing ‘facing-heaven chilli’ chaotianjiao (a category/type to which mantianxing and qixingjiao also belong), which are used all across China, are heavily cultivated in Zhecheng, Henan; still other chilli comes from cultivation in Xinjiang; some is even imported from India.

One needs to draw distinctions between local chilli for local use, chilli that has entered wider trade (sometimes with a local pedigree being upheld), and chilli for the worldwide trade, as well as the characteristics that make these appropriate for different uses.

434

Guizhou, aside from the chilli produced for trade (and its own culinary uses, including in the spicy oils made by Laoganma), many of them considered to belong to Sichuan as much as to Guizhou, also has typical kinds of chilli that are more local. The city Dafang, for example, produces a zhoujiao or jizhuajiao ‘wrinkled’ or ‘chicken claw’ chilli; Huaxi, a suburb of the province’s capital Guiyang, produces a Huaxi lajiao that has received a geographical protection of origin (even as it seems little known and used). Kaili, or at least the producers of suantangyu (the sour soup fish), grow a laoshanjiao ‘old mountain chilli.’ (The chilli seeds available in the USA as ‘Thunder Mountain Longhorn’ belong to this type, apparently.) By now, the variety used for the production of suantang is laoshanjiao 8-hao (number 8), developed from the original type, 1-hao (number 1). The latter is much thinner-fleshed, if similarly long, slender, and wrinkled, and thus less well-suited for fermentation, but preferred for making Guizhou’s laziji (spicy chicken) and still grown as the traditional local type.

Hunan is a special case. In recent years, a Zhangshugang chilli (from a place of that name) has been marketed very successfully as a special type for frying as green chilli. The city of Hengdong also grows a special, yellow-ripening, chilli which has been marketed, for at least 10 years already, as yellow tribute (chilli) pepper. (‘Tribute pepper,’ gong jiao, is otherwise often heard as a moniker for the Sichuan pepper from Hanyuan, which

is similarly marketed as having been a tribute to the emperor.) Most of the chilli used, whether imported or locally grown, of traditional stock or newly developed, however, is not differentiated by name. It is of a fitting type for Hunan cuisine, or it would not sell, but these fitting attributes are an implicit knowledge of its users, not any formal criteria.

### **Lesson 5: It's Complicated and Up to Creativity – Except When Not**

Which types of chilli have traditionally been used and are seen as essential or can easily be replaced with others is a matter of botany and the vagaries of history, of tastes and trade, and perhaps even of serendipity.

Historically, and with some continuation into the present, the right chilli was the type of chilli grown and used locally. This may seem like a matter of course, but it may point to an interplay between plant (spice) characteristics, growers' selection, and development of cuisines that is rather complicated, as well. Did the chilli that happened to arrive in a place become the right one, shaping eater's tastes? Or was a chilli only adopted when it fit in with the desired flavour profile of a cuisine? How and why did chaotianjiao ('facing-heaven chilli') spread widely and get into general use for chilli pepper flakes, erjingtiao come to be produced more widely than in its 'native' Sichuan but still retain the link to this place, whereas other types like Dafang zhoujiao or Huaxi lajiao remain strongly rooted in their respective places, to the point where they have official recognition as local products?

In local home cooking with locally grown ingredients, people simply know and have the kinds of chilli they consider right; anything else is either a less-known exotic or an import that still fits. In China, one can still find many farmer's markets with local produce, and the local character of produce has some importance. Asking if a chilli is local, *bendi*, typically results in emphatic agreement (at least in Hunan, where I have done this regularly) as long as it is not an import from far away. This has gone to the point where the 'bendi' character of chilli is so emphasized, it has ended up marking at least one accession of Chinese chilli in international gene banks, apparently having been misunderstood as the name of that chilli. Most of the time, such local chilli does not have any particular names. Rather, it is only addressed as green or red chilli, long or screw or facing-heaven chilli, dangerously hot or not too pungent. The emphatic claim that the chilli is local may also hide that the seeds may have come from a professional seed development company – and even chilli breeding in China, as it turned out in conversations with seed developers, is shaped by a concern for the locally fitting characteristics. (The explanation given was simple: If people did not like it, it would not sell.)

Only few types of chilli are not only grown locally, but marketed more widely. Such interaction on larger markets seems to have resulted in some types getting distinct names. In the extreme, seed developers have to and will label their different varieties. These names are hardly ever known except to the farmers and industrial users of special varieties, but are not just developed for higher yields and pest resistance, but also for certain flavours and uses.

Cooks have some leeway for creativity and preferences, of course. In fact, a seemingly simple aspect such as the typical pungency level of a cuisine can shift in line with customer expectations. Thus, Sichuan cooking outside of Sichuan has proven, even within China, to typically rise in levels of pungency the further away from Sichuan one gets. My first encounters with Sichuan food were in Beijing, and the mapo doufu there was hardly edible for anyone, it was spiced so strongly. In Chengdu, at the dish's birthplace, in contrast, it was always comfortably spicy. Marketing attempts have also played a role as chilli makes it easy to declare a store as having the spiciest food in the world (and news outlets as well as social media appear to like these declarations).

### Lesson 6: Modernization in Degrees of Spiciness

Levels of pungency lead to a final lesson in the spread and marketing of spicy foods that I found particularly noteworthy. (Full disclosure: This development comes from a company, Dezhuang, that I have an affiliation with; they were the main sponsor of my research into the chilli in China for the World Chilli Alliance.) Much of the rise of spicy eating, in China as well as around the world (certainly in the 'Western countries') has been driven by young people with a more-adventurous taste and by a certain machismo. Perhaps the benign masochism of which Rozin and Schiller (1980) spoke in regard to the chilli, the pleasure of safely going to one's limits, has been a driving force behind that.

436 The challenge for the food industry has been that the spiciness of dishes and products is marked haphazardly, if it is marked at all. What is labelled as hot in Germany is mild compared to spicy products in the UK, and what is marked as hot in East Asia is more pungent still, with a greater range than anywhere else (cf. Kalsec 2019). In order to bring standardization into this area and make things easier for diners, Dezhuang, which produces spice mixtures especially for hot pot and operates chains of hot pot restaurants, developed a rating system for spiciness.

The research for these 'Li's Spicy Degrees' looked at the levels of pungency in hot pot bases by measuring their capsaicinoid content (i.e., determining their Scoville Heat Units) and correlated ranges of pungency with a wide variety of diner's impressions. From that, they grade foods as having a spiciness of 12, 36, 45, 52, 65, or 75 degrees. 'Slightly spicy' 12 degrees are, by the official description, for the 3% of people who do not eat chilli, such as children and the elderly; 'medium spicy' 45 degrees is suitable for the largest number (45%) of people; 75 degrees is only meant for the small number of people who like to challenge their limits.

This drive towards modernization and standardization in one of the few under-regulated areas of the highly regulated food industry, and in the area of chilli cuisines that are typically not even recognized as such, has been extremely interesting to see. Speaking as a fan of spicy eating, it holds potential to make pungent dishes more accessible to more people (held back by a fear of getting food that would be too hot to handle for them), even as the other typical and necessary characteristics of spicy foods (certainly in the case of hot pot flavours) are retained.

## Final Thoughts

From cuisines that are distinctly spicy compared to others, to distinct kinds of pungency that differentiate such cuisines, arising from different uses of chilli and different types of chilli, into local agriculture and far-ranging trade, the pungency of the chilli is much more than just hot. It links old trade networks that spanned the globe and the poor who joined trading expeditions and were local farmers, who could not afford expensive spices but could bring and grow spicy chilli. It connects us to this past and to the present of remaining heirloom types of chilli, and to new agricultural and food-industrial modernization.

Chilli is also, prominent as its pungency has become among all the herbs and spices, the strangest among them all: It is easy to grow, easy to use and recognize and get burned by, easy to market in a social media world thanks to the extremes to which its pungency can go – and for the same reasons, it is fiendishly hard to recognize as a diverse spice, the diversity of which matters.

In that difficulty also lies the fun, the potential for exploration, out among the growers of the chilli and in our own gardens and kitchens!

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