

Making Mr Song's Cheese

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The standard story is that ethnic Chinese don't eat cheese or drink milk because they are lactose intolerant. They do, but it's complicated, as Miranda Brown, of Michigan University discovered after serendipitously finding a reference in an old medical text.

Miranda Brown: It was an accident. I found it, you know, when I was translating a medical document from the ... I found this reference to camel butter. And I thought, Can you make butter from camel milk? And more to the point, what is a dairy product doing, you know, in a Chinese recipe book or medical formula book? You know, I didn't think that they did dairy. And, you know, that was definitely the sort of thinking I had. You know, growing up, my mother used to refer to, you know, white Americans as butter eaters. And so I, you know, had drawn the conclusion that Chinese and probably by extension, Asians didn't do dairy. So I think that's why I was very surprised to find, you know, a reference to camel milk. And so I, you know, just I was curious. And so I started doing a few sort of searches through ... Many Chinese texts are digitised at this point, especially classical texts. And I started to like, you know, look through them and I got a lot of hits. And so as I, you know, I started looking through Chinese cookbooks and I found many, many references to dairy products.

Jeremy: So how do you get from camel butter then, to actually finding these these marvellous recipes for fresh cheeses that that you found?

Miranda: Probably very systematically. It sort of all kind of happened around 2016. I was on maternity leave for a year, and the only thing I could do at that point was just go to the library and just sort of systematically move through the thousands of years of Chinese cookbooks and sort of medical pharmacopoeia. And eventually I got to the Ming Dynasty, where I found this, you know, beautiful set of recipes for fresh cheeses. And so it was mostly, you know, a reconnaissance mission. One of the nice things about just kind of

working with sources is that you often find things that challenge your assumptions.

Jeremy: You do say in the article you wrote, you say that this sort of use of dairy products, not just cheese, despite the received wisdom being the opposite of that, you say that it was kind of well known, but a really well kept secret. What do you mean by that?

Miranda: Well. So there was a very famous article by Francois Sabin, who was a, you know, a well known sort of Asian studies scholar in France who wrote a paper about dairy products in the late 1980s in a French journal that was published in Japan. So the, you know, there was a handful of us who have been working around food issues, like Gene Anderson, and so we knew about it from that angle. But, you know, unless you read French, unless you were doing this kind of research, you probably weren't paying much attention. And you just, even as a professional sort of China scholar, you probably would have assumed there wasn't dairy products. You know, I'm not the first person to have noticed that there was dairy. I think that that, you know, has surfaced here and there in the scholarship. It's just that, you know, it hasn't really, I think, made the impact that it needed to in English.

Jeremy: Tell me about the recipe book that you found, Mr. Song's recipe book.

Miranda: Okay, so this is one. But there are others that have dairy products. So this is a book that dates to about 1504. There were recipes that were added later in the 16th century by, I think, a great nephew of Mr. Song.

Mr. Song lived in what is today a suburb of Shanghai, Songjiang, which is actually the site of an amazing quarry hotel and actually one of the largest mosques in South China. He was a descendant of the Song Imperial Family, which was eventually sort of kicked out of power by the Mongols. And so his family had moved to the south, probably in the 12th century after an invasion from the north. They settled in Shanghai. They changed their names, and he really didn't do much with his life. His nephews became extremely famous poets. He mostly hung around. But what's interesting about Mr. Song is he had a mother who was quite a cook and he took her sort of recipes and he sort of committed them to writing. So this gives us a picture of what elite cooking looks like, not only in the south east where he lived, but, you

know, elsewhere in China. But what's interesting about his recipes is that many of them actually appear in other cookbooks from the same era and same area. So we know that, you know, these were also in use around the same time in place.

Jeremy: You say that his mother was quite a cook. Do you mean that literally or that she managed a household? I mean, I don't have a sense for Mr. Song and his family's standing. Would they have had servants who did the cooking or do you think his mother actually did the cooking?

Miranda: Well, I think she had a lot of help. I think what happened is that she was very interested in food. So she would, when she traveled, she would get recipes. I suspect she understood the process well enough to direct, probably participated in it. I'm not sure she was literate, however, because, you know, she gave oral instruction and he was the one who wrote it down. So, you know, it's not clear also whether she was ... She probably was the main wife. But, you know, it's clear that she had an interest in this and was involved in the process. If she wasn't, you know, doing the cooking herself, she was one of the people that was, you know, I think, intimately involved.

Jeremy: And what about the cheeses? What's the recipe?

Miranda: Well, I mean, there are two main cheeses. One is where you it's like paneer or queso fresco. You basically heat up the milk, probably cow or buffalo milk. Heat it up, you know, to about 180 degrees [F]. And then you add some kind of sour. It's not exactly vinegar, but it's sort of similar. And then you use that to coagulate the milk. And once it coagulates, of course, you strain it, you press it into some kind of block or disk. The other one is where you heat up the milk to make more or less the same kind of fresh cheese. You don't heat it up as hot. You, you know, maybe to 110 degrees [F] or so and then drop in the vinegar. Once the cheese coagulate is strained, you immerse it in sort of scalding water and stretch it to make something similar to a mozzarella. Still the kind of cheeses that you find in southwest China today in Yunnan. And similar to some of the cheeses that you find in eastern parts of India as well.

Jeremy: And it sounds as if you've actually tried to make it. Was it ... Did you try? Was it easy?

Miranda: I tried it. Absolutely. The fresh cheese was simple enough to make. The stretched cheese was, however, more of a challenge. I talk about this in a blog post that followed my article that appeared in *Gastronomica* called Making Mr. Song's Cheeses. And this involves trying to make the stretch or mozzarella-like cheese. What I discovered is that you can't really do it with milk that's been pasteurised. So I ended up having a trip to California, and I was asked to give a talk and I agreed because I knew that California is one of two American states where raw milk is legal. And I really wanted to see if this recipe could work. So I went to the grocery store one night when I was in California, went back to the place I was staying, and once my daughter was asleep, I made this cheese in about five minutes. It was surprisingly easy, but the raw milk was the key.

Jeremy: I wonder why that was. I mean, did any of your colleagues at Michigan, which I know has a big dairy department, did any ... were there any of them able to help you understand that?

Miranda: Oh, we don't have a dairy department. Actually, that's Michigan State. We are ... You know, there are two Michigans.

Jeremy: My mistake.

Miranda: Yeah, we're working on ... I'm working on getting more of the food preparation angle here. We have sort of a food and sustainability program, but I think that heating the milk too hot does something to the proteins and it makes it harder to do a lot of things. I mean, Mr. Song certainly would not have had access to pasteurized milk. So I feel like we're closer to the actual process.

Jeremy: And are these cheeses just then eaten as fresh cheese, or do they go into other recipes in Mr. Song's recipe book?

Miranda: Both. I mean, I think that, you know, one thing we know about the fresh cheeses is that they can be, you know, seasoned and then taken with beer, you know, or tea. But often they're cooked, you know, similar to tofu, put into stew, sometimes made into desserts, deep fried, even they don't melt. So you can deep fry them and sprinkle them with sugar. So there's many, many culinary applications of dairy products.

Jeremy: And did you try any of those?

Miranda: I did try a few. I did one recipe that involved steaming some mustard greens with thick pieces of cheese on top. That was all right. They also put the fresh cheeses sometimes into the wonton skins. There's also a recipe where you have cheese in the wonton skins, cheese in the pasta. There's also cheese filled wonton made with poppy seeds and scallions.

Jeremy: That sounds good.

Miranda: That was, I think, a lot of fun. That was good. Yes.

Jeremy: Let's sort of take a step back, because this whole idea that Chinese don't eat dairy. False, though it seems to be, is sort of based on the notion that a lot of people of Chinese origin are lactose intolerant, or at least that's how I learned it. Is that still the kind of received wisdom?

Miranda: It is. It is, though, you know, it's kind of a puzzle, right? Because one thing we know the Chinese do these days is drink a lot of bubble tea. And that is a tremendous amount of milk. This is a drink that began in Taiwan, which is, you know, a culturally, ethnically sort of Han Chinese area. It spreads to China. It's extremely popular there. It's, you know, a multi-billion dollar industry. And you walk into any Chinese mall, you'll see youngsters with 20oz of bubble tea getting, you know, what I would call a lactic bomb. So it's been very hard to sort of square this idea that the Chinese are unable to digest fresh milk with the reality of, you know, contemporary sort of dairy consumption. And also to explain the tremendous growth of China's sort of dairy industry. I believe by now it's the world's largest market for milk.

Jeremy: Certainly I know it's a large market for yogurt, but again, the lactose has generally been removed from that. So I'm just wondering, I mean, are people looking into this again, having once said that most Chinese people are lactose intolerant. Is it being reexamined?

Miranda: There's a couple of things that I've seen. I've seen a few articles done by Chinese-based scientists looking at the question, you know, trying to understand how, you know, it's possible for fresh milk consumption to work in a country that's purportedly lactose intolerant. One theory that the Chinese scientists have sort of promoted is the idea that there may be more than one gene that, you know, controls your ability to digest fresh milk and that we haven't

found the allele yet or identified it or even been looking for it, because we know that at this point there are several genes that, you know, basically allow people to digest fresh milk.

Another thing, and this is a project I'm doing with a Chicago anthropologist named Alice Yao, is looking at the history of this idea of lactose intolerance. It's a really very modern sort of medical concept that was developed in the 1960s by an American scientist who was working in a Baltimore correctional facility. He came up with the idea that non-white people had trouble digesting milk and that sort of caught on with geographers and anthropologists and archaeologists at this point who now, you know, are looking at the spread of one gene that supposedly controls the ability to digest milk around the world. So, you know, that concept or that medical piece of medical wisdom itself, you know, I think is, you know, is hopefully something that Alice and I will probably address or look more carefully into. The one thing I will note is that the clinical evidence is all over the map on milk. I mean, you know, there were studies that were done in the 80s and 90s that show quite clearly that, you know, people who supposedly have all the right genes to digest milk, you know, often can't tolerate milk.

So there might be other factors involved like gut biome or, you know, various kinds of gastric distress, general diet. This is something that the American Medical Association has also suggested is that, you know, the ability to pass what we call lactic challenge, which is this very artificial clinical test, which involves fasting and then drinking only milk sugars, but not a real glass of milk, may in some ways exaggerate the problem because if you if you fast for 12 hours and then you drink just milk sugars, you know, that is harder to tolerate than an actual glass of milk or yogurt or cheese.

And so some of these these results or these statistics come from, you know, not real world situations, you know, but from these highly artificial sort of like lab sort of experiments. There have also been studies in Hong Kong which show that, you know, a lot of the people who flunked the so-called lactic challenge, this milk sugar exercise, can digest milk just fine in everyday life. So there's clearly a gap between the clinical evidence, you know, and what people do in real life.

Jeremy: And looking back at the historical record, what about milk drinking in history?

Miranda: Well. So fresh milk is not a big food. You know, obviously milk is something that you have to kind of process or consume immediately, or it can become quite dangerous. But what there is are a number of very interesting sort of medical sort of formulas and medical cases associated with them, where someone that gets dysentery, chronic dysentery, which is the runs, you know, more colloquially, will drink a form of condensed milk with peppers in it to stop the runs. And this was a standard formula, really. The last evidence of it stops in like colonial Taiwan in the early 20th century. So, you know, that seems to work against the idea that, you know, milk is associated with diarrhoea and cramping and other diseases that we associate with, you know, symptoms that we associate with lactose intolerance.

Jeremy: Right. But in Mr. Song's recipe book, for example, is he using fresh milk? Does he record any information about fresh milk?

Miranda: He doesn't use it, but other people do. And one place that we see it is in milk tea recipes. Milk tea is certainly a drink. There's also cream tea and butter tea in the Chinese world in the early modern period. And you know, I've read recipes from the 18th century where you put fresh milk into tea about a third of a cup or something, or a third of the container is milk. And then you put the tea in. Sometimes salt, sometimes sugar, depending on who it is. So we know fresh milk is used.

Jeremy: Going back to your own interests and history, you mentioned that your mother was Cantonese. Was that a factor in getting you interested in studying China?

Miranda: Um, at the time I would have said no. But clearly it was a strong influence. You know, I signed up for an early Chinese history class the first day of college. So I assume that having a background with Chinese relatives, trips to China, probably played a role in at least putting that country on my radar.

Jeremy: And were you able to tell her about. Sorry, I don't know if your mother is still with you.

Miranda: No, no. She passed away in 2004. I wasn't able to, but oddly enough, I would go on like sort of cheese hunting ... There are a few locations in the Pearl River Valley, which is where her family was from, which are still known for their cheeses and various dairy products. And so I would call up my cousin who lives in Canton and we would, you know, take a flight to Hong Kong, take a train to Canton. And from there we'd head out on these cheese eating missions. So I feel like my family's been involved, at least indirectly.

Jeremy: Were the cheese eating missions rewarding?

Miranda: Oh, yes. There was a lot of fun. I mean, my cousin would give me her perspective on dairy products in the United States, because she came and visited at one point. And she has fond memories, actually, of having buffalo milk. At one point in this ... She was older, but it was, I guess in the early 70s or late 60s, she was underweight. And the standard treatment for that, believe it or not, in sort of communist rationing China, was to feed somebody buffalo milk. So she would get basically a prescription and they would get buffalo milk. And it was very, very rich stuff and dense. And she remembered that, you know, having that as a kid. And then, you know, years later, she told me that, you know, she came to America where the milk was so cheap, she was shocked at how cheap our milk is because, you know, a gallon will run you about \$6 in China. And she, you know, remembers opening up the milk carton and being so disappointed by the quality of the milk, which she found to be so, so lacking in richness, meaning milk fat. So I really appreciated her perspective on this.

Jeremy: Well, buffalo milk is fattier than cow's milk. That's interesting, that the richness was something that Chinese people sought in milk, maybe because it was associated with being sort of medicinal. I wonder what they would make of of fully skimmed milk.

Miranda: I mean, I've actually asked friends from mainland China about this and they were like, no, no, no, no, that's a bad idea. What's the point? You know, milk is supposed to be a meal, right? And traditional breeds of Chinese cattle also produced a lot less milk. But it was richer, you know, much higher in fat content. There were some dairy scientists who came over in the early 20th century and did studies of it, and were trying to think about how to improve the yields, you know, but the Chinese like their ... They sometimes

selected breeds that produced less milk but richer milk. And I think that's because it's not just medicinal, but also, you know, milk is associated with richness, with fat, with luxury, with sensuality. So I think that's part of it.

Jeremy: So it was a luxury food, not a kind of peasant commoner food.

Miranda: It depends on what period and what place. But certainly if you were in sort of, you know, southern China, I think that it was definitely a luxury food rather than a, you know, a peasant food.

Jeremy: And then what about butter? I mean, you say that traditional Chinese cows give very rich milk. Did the Chinese also did they make butter? What about cream?

Miranda: So they definitely had various butter-like things. One thing they did make is a churned butter. This is attested in sixth century agricultural manuals from North China. And then they would clarify the butter to make ghee, which of course, has a wonderful long shelf life. So that was one way. And then I think really starting, I would say in the 12th or 13th century, they started opting for clotted cream, which is probably something they borrowed from the Persian world. It became very, very popular. And they would make this wonderfully rich, clotted cream and put it on top of their teas.

Jeremy: And what now for you? Are you done with with milk and cheese or is there more still to find out?

Miranda: I'm leaving for Taiwan in a couple of months to finish A book about a popular history of Chinese food as seen through 20 signature dishes that Americans know and love. And so this will be a book about sort of thinking critically about authenticity and what it means in the context of a world where there's, you know, quite a bit of sort of cross-cultural contact.

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